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BACKGROUND

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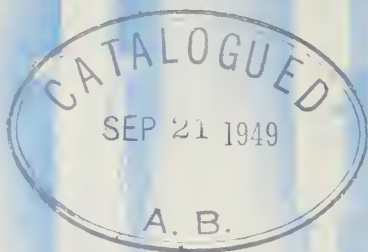
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THE JOURNAL

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THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

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No. 1

FURTHER OBSERVATIONS ON ECTOPIC PREGNANCY

FRANK E. WHITACRE, M. D.

And

THORNTON BRYAN, M. D.

Memphis, Tennessee

Any bleeding during pregnancy or labor is always abnormal. Although a few women menstruate for one or two months after conception, this usually subsides when the uterine cavity is filled with the amniotic sac at about the fourth month of gestation. Menstruation and hemorrhage must be clearly differentiated.

It is not necessary to review completely the physiology of early pregnancy, but, in order to better understand the condition being discussed, some of the changes which take place must be considered. It has been repeatedly shown by histologic studies on the endometrium that a proliferative endometrium becomes secretory in character during the last half of the menstrual cycle. Immediately before the onset of the menstrual flow, it has become thickened and compresses the tubular glands to the myometrium. This can be attributed to proliferation and to enlargement of the supporting cells of the stroma. So marked is this change in some instances that it is difficult to distinguish from true decidua and has been referred to as the progestational phase of the endometrium. From the

changes mentioned, the formation of decidua is but a short step.

The generally accepted belief that the ovum burrows itself into a secure position is erroneous. On the contrary, at the time the ovum imbeds in the prepared compact superficial layer, it lies almost on the surface, and a few layers of cells barely cover it. It should be pointed out with emphasis that after this superficial imbedding, it remains in this anatomical relationship throughout the entire pregnancy. Most of the bleeding that occurs during pregnancy can be explained on the basis of the relatively insecure footing of the developing ovum and later fetus. The source of the bleeding is always maternal, and arises from a splitting away of the spongy layer of the decidua from the wall of the uterus.

ETIOLOGY OF EARLY ECTOPIC PREGNANCY

Any pregnancy located outside of the uterine cavity should be classified as an ectopic pregnancy. A pregnancy occurring wholly outside of the uterus is an extra-uterine pregnancy. Tubal pregnancy signifies a pregnancy within the fallopian tube, and there are three types of tubal pregnancy—interstitial, isthmic, and ampullar. The fertilization of the ovum in the graafian follicle and its subsequent development in the ovary is referred to as an ovarian pregnancy. Abdominal pregnancy is, in the vast majority of cases, secondary to tubal or the ovarian type. Ectopic pregnancy may occur

From the Department of Obstetrics and Gynecology, the University of Tennessee College of Medicine.

Read before the Association in annual session, Mobile, April 16, 1948.

Some of the material in the paper is taken from the authors' report in the March 1948 Journal of the Michigan State Medical Society.

at any time during the childbearing period. There are numerous causes of tubal pregnancy, one of which is the mechanical interference with the passage of the fertilized ovum down the tube to the uterine cavity. This includes pressure on the tubal lumen from without or obstruction of the lumen from within as well as various anomalies of the tubal lumen. The most frequent cause is probably pelvic inflammatory conditions whether recent or remote. It is probable that external migration of the ovum is quite rare.

PATHOLOGIC CHANGES

Slight enlargement of the uterus and a true decidua are characteristic. Small shreds of the decidua may be cast off during the second or third month but sometimes may be extruded as a decidual cast. A pseudo-decidua forms at the site of implantation in the fallopian tube, and, as the ovum develops, chorionic villi erode and invade the tubal wall. An erosion of the blood vessels is noted, and the walls of the tube become thin and weak. No hyperplasia or hypertrophy is noted in the muscle tissue. Hemorrhage is the result of direct erosion of the vessel wall by the trophoblast or by rupture of the tube due to the increased size of the ovum. The initial hemorrhage is seldom fatal, and clotting of blood will usually arrest it. In the case of tubal abortion, the ovum escapes into the abdominal cavity from the fimbriated extremity, noticeably common in the ampullar variety. The ovum may find its way upward into the abdominal cavity or downward into the broad ligament. Tubal pregnancy in the ampulla most frequently results in tubal abortion, which usually occurs in the first two months of gestation. After the abortion has taken place, the ovum and a substantial amount of blood usually gravitate to the cul-de-sac and may be absorbed or form a pelvic hematocoele. Gradual extension of the fetal sac will result in abdominal pregnancy if the process of tubal abortion or rupture of the tubal wall is sufficiently gradual. Most patients suffering from rupture of the tube give a characteristic history of having experienced a sudden sharp pain on the affected side while engaged in some type of exercise. A feeling of faintness, often accompanied by thirst, follows. The patient becomes pale, the pulse weak and markedly increased, and

the respirations rapid. The temperature drops to subnormal. Frequently air hunger is present, and a cold perspiration breaks out over the body.

MATERIAL

At the John Gaston Hospital during the years 1946 and 1947, we admitted 51 patients who proved to have a ruptured tubal pregnancy. Although the incidence of tubal pregnancy is not definitely determined, these 51 accidents occurred during the same time interval in which 5,861 births took place on the same service. There were 3 deaths—one due to a transfusion of incompatible blood; one died apparently from the spinal anesthesia; and the other died on admission to the hospital before any treatment could be carried out.

DIAGNOSIS

The diagnosis of ectopic pregnancy is seldom made before rupture. One must suspect threatened abortion or ectopic pregnancy when the patient gives a history of early pregnancy and irregular bleeding. Cramp-like pain, fever, and leukocytosis, in addition to the presence of a tender mass on one side of the uterus, are usual characteristics. After rupture, there is a history of early pregnancy, accompanied by intermittent bleeding and the occurrence of a sudden sharp pain followed by collapse. Of utmost importance in the treatment is the differential diagnosis between abortion and ectopic pregnancy. The incidence of abortion is greatest between the second and third months of gestation, while tubal pregnancy may be found as early as the fourth to the sixth week. The bleeding in tubal pregnancy is first uterine in origin due to decidual separation. This usually indicates the death of the ovum or fetus. In most instances the bleeding is moderate in amount and is often chocolate colored. It is not unusual for decidual fragments to be passed, but a complete decidual cast is rare. In contrast, the bleeding in uterine abortion is frequently quite profuse and bright red in color. In tubal gestation, the pain is usually tearing in character, rarely colicky, and often referred to the affected side. In addition to the pain, a feeling of faintness or vomiting as a result of peritoneal irritation may be present. Characteristic pains of abortion are cramp-like, rhythmical, and resemble those of labor.

In cases of ectopic pregnancy, an adnexal mass is frequently palpable on one side of the uterus, which is semifluctuant and tender. When there is free bleeding in the cul-de-sac, a soft mass may be palpated. There will be moderate enlargement and definite softness of the uterus. In uterine abortion, the uterus will enlarge to correspond to the period of amenorrhea, and, in the majority of instances, the adnexal region will be negative to palpation. Partial dilatation of the cervical os will be noted. An examination of the uterine contents will further enable one to establish a more definite diagnosis. In the case of intra-uterine gestation the uterine contents would reveal chorionic villi and decidua, but in the case of ectopic pregnancy only decidua would be found. Puncture of the cul-de-sac or colpotomy is a frequent aid in diagnosis. The hormonal tests are of value in reaching a diagnosis only when they are positive. However, a negative result does not eliminate the possibility of an ectopic gestation. A hormonal test will become negative upon the death of the ovum and the separation of chorionic tissue from the tubal wall. The possibility of an intra-uterine gestation, however, is not eliminated by a positive test.

Success in the treatment of ectopic pregnancy is frequently reported, but rare indeed is a report showing the number of operations performed when the diagnosis was in error. In such instances the findings may include appendicitis, normal intra-uterine gestation or pelvic inflammation—with or without abscess formation, and it is probable that operations, when ectopic pregnancy is expected to be found, have been performed and no changes at all were evident. It is obvious that more accurate methods of diagnosis would be of value. To meet this need, we are striving to make more certain of the presence or absence of extravasated blood in the peritoneal cavity.

Vaginal bleeding, low abdominal pain, fever, anemia, and leukocytosis in the presence of a pelvic mass are common signs and symptoms. The differential diagnosis must include pelvic abscess, hemorrhage into a cyst, appendicitis, intra-uterine gestation with pelvic inflammation, or ectopic pregnancy with bleeding into the abdominal cavity. The identification of hematin in the

peripheral blood may be of diagnostic significance.

Ectopic pregnancy cannot be specifically diagnosed by the presence of hematin in the blood stream. Its appearance only indicates bleeding into a body cavity. Hemoglobin released in a body cavity hydrolyzes and liberates hematin which is absorbed into the blood. Hemolysis from diverse causes is suggested by the presence of hematin. By means of the spectroscope, hematin may be revealed, although it gives a weak spectrum. However, by the addition of a reducing agent to hematin in the presence of plasma proteins, reduced hemochromogen will be formed. This affords a good spectrum of two bands—one a strong narrow band at 558 millimicrons on the spectroscope and a fainter wide band at 527 are seen. Particularly characteristic is the first band at 558.

A detailed description of the technic for use in the spectroscopic detection of hemochromogen in the peripheral blood will appear in a forthcoming report in the *American Journal of Obstetrics and Gynecology*. This report presents a review of 100 cases in which we used this test, and, although we had four failures, there were no false positive tests. Whether ruptured or not, the treatment of ectopic pregnancy is always surgical. This assumes that every effort has been made to replace blood volume before surgery is instituted.

LATE ECTOPIC PREGNANCY

Early ectopic pregnancies in a few instances are undetected in the first trimester, and some of these become secondary abdominal pregnancies. In other words, they are late ectopic pregnancies. A recent review of our material reveals that in the past five years we have had 13 abdominal pregnancies occurring among 14,802 deliveries.

The diagnosis of late ectopic or abdominal pregnancy is made on a history of an acute painful episode which corresponds to the tubal rupture or abortion occurring before secondary implantation. On pelvic examination, it is likely that an enlarged softened uterus, as is encountered in ectopic pregnancy, and a mass of varying consistency formed by the extra-uterine gestation may be revealed. Positive hormonal tests for pregnancy will be obtained. In the last trimester the small parts of the fetus are quite easy to palpate. An increase in the

incidence of abnormal positions and presentations in abdominal pregnancy is noted, especially in cases of transverse presentation. Abdominal gestation should be strongly suspected in the presence of these findings. It is not infrequent for the patient to go into pseudolabor near the expected date of delivery. Regular recurring pains of increasing intensity may be experienced, although the explanation is not known. These pains may continue for variable periods of time. If an accurate diagnosis is not made, the pains will subside and the fetus may die.

Roentgenologic evidence consists of (1) the absence of a uterine shadow without the use of an opaque medium using soft tissue technic, (2) the fetus usually high in the abdomen, (3) an abnormal position assumed by the fetus, particularly the transverse, and (4) the fetal parts just beneath the abdominal wall in the lateral view of the abdomen. The injection of opaque medium into the uterine cavity is advocated by some, but this is not without danger.

Our series of 13 cases of abdominal pregnancy is summarized as follows:

Age. The ages varied from nineteen to thirty-nine years.

Color. One white and 12 colored patients comprised this group.

Gravity and Parity. Three of the patients had not borne children previously. The remaining 10 had delivered five or less babies.

Months of Gestation. Four gestations had reached four months. Three were five months, and there was 1 each at seven and at eight months. There were 4 term pregnancies, and 3 livebirths. One stillbirth was a full-term infant, and the other was a macerated premature seven months infant. One of the 3 livebirths was an eight month premature infant, but the other 2 were at term.

Histories. Ten of the 13 patients gave histories suggestive of previous tubal abortion or rupture; i. e., pain, spotting, irregular menses, fainting, or marked weakness during early pregnancy.

X-Ray Evidence. X-ray pictures were made in 11 of the 13 cases. In 4 of the 11 patients, the films were of no value, but in the remaining 7 cases they were of definite value in showing the extra-uterine pregnancies.

Presentation. An abnormal presentation was diagnosed in 3 of the 4 term pregnancies and in the premature livebirth. Notation of presentation in the other cases was not made.

Preoperative Diagnosis. A correct preoperative diagnosis was made prior to surgery in 8 of the cases.

Treatment of Placenta. Removal of the placenta was the choice of treatment in 4 cases. These were gestations of four or five months where the fetus had been dead for a considerable

length of time, and the thrombosed vessels of the placenta allowed separation with ease. In all the term or near term pregnancies, the placenta was not removed. Two of these patients developed abscesses. Spontaneous drainage through the original skin incision and subsequent improvement in 1 case eliminated the need for further surgery. The other abscess was drained through the cul-de-sac of Douglas by colpotomy, and improvement was rapid without sequelae. In all other cases when the placenta was left intact, absorption was apparent without sequelae, and further surgery was not necessary. None of the cases were drained, nor was marsupialization done at the initial operation. There were no maternal deaths in these 13 cases.

SUMMARY

The management of early ectopic pregnancy demands accurate diagnosis, replacement of blood loss, and surgical treatment. We make use of the usual signs and symptoms, aspiration of the cul-de-sac, and suggest that the detection of hematin in the peripheral blood may be of diagnostic value.

The treatment of late ectopic or abdominal pregnancy requires diagnosis as aided by x-rays, laparotomy, and proper treatment of the placenta. The latter is of vast importance. It is better to leave the placenta without drainage or marsupialization unless infection is present or the placenta separates with ease and can be extracted without serious blood loss.

The Alcoholic—We should differentiate between emotional immaturity and emotional instability resulting from the alcoholic spree or debauch. The former has never grown up emotionally and the latter is emotionally unstable as a result of an overdose of alcohol and side reactions resulting therefrom. The emotionally immature patient will often respond and cooperate if the daily visit is made for some time on a neutral ground. This type is suspicious and often thinks the psychiatrist is trying to prove that something is mentally wrong. The patient, however, will often become friendly with the physician in a few days, and with tact the psychiatric aspects of the case can be obtained; the same patient, however, had he known the physician was a psychiatrist, would not have opened up. I have had this experience several times and have been told by some of the cases that I should study psychiatry. The point is that many alcoholics are "gun shy" of psychiatrists per se but will often cooperate fully with the physician-psychiatrist.

On the other hand, there is the alcoholic who demands a psychiatrist at once and expects the psychiatrist to convince him that he is not an alcoholic and point out a clear course by which he can return to drinking socially without becoming intoxicated.—Young, *New Orleans M. & S. J.*, June '48.

THE STATUS OF VENEREAL SEROLOGY IN ALABAMA

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State Department of Health
Montgomery, Alabama

Diligent effort in any direction frequently uncovers some wholly unsuspected fact or condition. Whatever may be the nature of the finding, it generally proves of either positive or negative value.

Such a discovery has been made in the attempt to implement the recently enacted premarital blood test law. The unsuspected ill thus unearthed is the all too apparent status of venereal serology in this state. This discovery came about when it was seen that there would have to be a wider distribution of laboratories where these tests could be made than could be provided by the ten laboratories of the State Health Department alone. It was evident that the performance of any private laboratory authorized for this purpose must be absolutely reliable. Mistakes, bad enough at best, might be tragic at such a time.

The handling of the serologic aspect of the law was placed in the hands of the State Health Department and, naturally, became the duty of the Bureau of Laboratories.

It should be understood at the outset that, in what follows, the Bureau of Laboratories does not pose as a self-appointed supreme authority in venereal serology or that it is trying to exploit its official position. It is a fact, however, that it is carefully checked on accuracy by evaluation tests issued by the Venereal Disease Research Laboratory of the U. S. Public Health Service. Between three hundred and five hundred check sera are received per year, in the examination of which the Bureau of Laboratories has made an excellent rating both as to sensitivity and specificity. As far as is known, it is the only laboratory set-up in the state that is so carefully checked. As a matter of course, the Bureau of Laboratories checks all of its branch laboratories. It seems fair to assume, then, that there is justification for its acting as referee in authorizing private laboratories to do this work.

At the start it was advertised widely that hospitals and clinics desiring such authorization should apply and that check specimens would be sent to determine their ability.

Twenty-four applied and each was issued five series of ten sera each. Each serum was meticulously checked before distribution by the Central Laboratory at Montgomery.

Two laboratories did not respond. Twenty-two took the test. A few qualified in the first series. A few others improved their score to the qualifying standard on a second round of fifty sera. In these preliminary series very liberal grading was used, 85% being set as the passing figure. This was much too low but it did not seem that too high a grade should be demanded at the outset. The grading next year will be much stricter.

The results were disconcerting and discouraging. Reports varied from complete negative reactions on a positive series to complete positives on a negative series. The accompanying table shows how wide the variations were in one series of ten sera.

TABLE I

ONE SERIES OF TEN EVALUATION SERA SHOWING THE STANDARD REACTION ON EACH WITH THE CORRESPONDING CHECK REPORT BY THIRTEEN LABORATORIES. THE FIGURE $\frac{1}{2}$ INDICATES A PLUS-MINUS REACTION.

Standard	3	3	2	3	2	3	2	4	2	2
Check Reports	—	—	—	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	2	—	—	—
	1	2	$\frac{1}{2}$	2	$\frac{1}{2}$	2	$\frac{1}{2}$	2	$\frac{1}{2}$	—
	1	1	1	2	—	3	—	2	—	—
	$\frac{1}{2}$	2	$\frac{1}{2}$	3	—	3	—	3	—	—
	—	1	—	1	—	1	—	1	—	1
	1	1	$\frac{1}{2}$	2	—	2	—	3	—	—
	—	—	—	$\frac{1}{2}$	—	$\frac{1}{2}$	—	2	—	—
	1	2	—	1	1	2	1	3	1	—
	1	1	1	2	1	2	—	2	—	1
	2	2	1	3	1	3	$\frac{1}{2}$	4	1	$\frac{1}{2}$
	—	—	—	—	—	—	—	—	$\frac{1}{2}$	—
	2	2	2	3	2	4	—	—	—	—

This evidence, shown in only one of several similar series, certainly seems to demonstrate the quite general need of a change for the better in our serology. Several factors are apparently involved.

Serologic methods in common use today are far simpler and more accurate than was the original Wassermann. Were the latter being used now, the present volume of tests could not be handled nor could reliable results be achieved. Unfortunately, this very

simplification appears to be one cause of a let-down in painstaking adherence to technique. The idea seems to be that but little care is needed. It must be emphasized, therefore, that no test is of the "kitchen table" sort. Care, care and still more care are essential to success. In this connection, it should be stressed also that author serologists frequently revise their details of procedure for the better, publishing such changes as they are made, yet the indications are that many technicians in 1948 are still using 1938 methods.

It is well known that different tests are apt to give different reactions on the same serum. Some are more inherently sensitive than others. Some are more difficult to read than others. None of the current tests is bacteriologically specific. This may account for some inaccuracies but it does not excuse such variations as have been seen.

The same diversity of reactions occurred in the Army just prior to the late war. The author was much disturbed by the startling variety of reports on the same individuals coming from widely scattered post laboratories. On investigation, these latter were found to be employing whatever method was favored by their chiefs. Being at the time in charge of the Division of Serology at the Army Medical School and, therefore, responsible to an extent for serologic reliability in our rapidly growing forces, he felt the urgent need of a standardization of procedure. In accomplishing this, no one was compelled to discontinue his specially favored test but a single method was set as a standard for both Army and Navy by which all results were to be reported. Even allowing for individual errors, the improvement in uniformity was surprisingly greater than had been expected. It was evident to everyone concerned that venereal statistics were rendered much more reliable.

In the State Department of Health laboratories, both at Montgomery and Birmingham, where the serologic load is heaviest, an over-sensitive test is used to screen out the negative sera. All doubtfuls and positives are submitted to the Kahn standard test and are so reported. Thus the results are expressed as by the same procedure. The tests in the state-wide venereal survey are made in the same way. Uniform standards

are maintained throughout the State Health Department laboratories by this means.

It is often argued that no one can be one hundred per cent perfect in serologic evaluation. This is by no means true. Seven of the Department's branch laboratories and two private laboratories did just that. This does not mean that the personal equation was entirely ignored. It does not mean that the serologist was expected to return a report identically the same as the standard readings, plus for plus. It does mean that a positive report could not be accepted on a negative serum or a negative report on a positive serum.

Corrective advice has been and always will be gladly given by the Central Laboratory to any technician asking for it. Several have taken advantage of this with good results. Two common faults have been revealed in this way. One is the lack of adequate equipment in several laboratories. Proper apparatus is an absolute necessity. "Do whatever comes, with what you've got, wherever you are" is often useful and productive advice along some lines, especially in the emergencies of war time, but in the peace-time handling of premarital blood tests it has no place. In this type of work the best is none too good. The other fault disclosed was that too often the serologist would be interrupted in the midst of the procedure for the performance of some other test, leaving the serology suspended. One might think this a minor matter but it is anything but that. Once begun, these tests must be finished on a rigid time schedule and strictly according to directions or they are worse than useless.

Too many laboratories do not seem to appreciate the fact that plenty of continuous practice is essential to reliable results; that, in performing such complex reactions, the serologist doing five or six tests a week is at a hopeless disadvantage compared to one running several hundred a day; that with so few routine tests even the preservation of trustworthy positive control serum is almost impossible. Perfect positive and negative controls must be available for every series of tests run.

The foregoing are the most acute ills affecting serology in Alabama today. It is not intimated that any laboratory is affected by all of them. It is believed that too many are

afflicted by one or more of them. It is past cavil that any one of them will easily wreck these tests. These ills are by no means incurable, therefore they should be cured.

The bane of false positives inherent in our current methods can be credited to co-existing diseases, such as malaria; to some vaccinations; according to some authorities, to any condition causing fever or tissue destruction; or to some cryptic physiologic malfunction, as a menstrual disorder. The hope for a true bacteriologically specific test that would do away with these untoward reactions is very dim at present. Much of the worry incident to these serologic pests may be overcome by a test now under investigation by the Venereal Disease Research Laboratory. These reactions may well be due to adventitious substances extracted from beef heart in the making of antigens. This new cardiolipin antigen bids fair to eliminate false positives. So far, judgment must be reserved as to its value and developments awaited.

This summary is addressed to the profession of the state in the hope that it may take cognizance of these faults and see fit to rectify them. The cure for these ills is in its hands alone. Some remedial action would be of great value. The improvements here recommended may seem difficult of general enforcement but the profession can make whatever changes it deems wise. It would be merely one step in raising medical standards in the state.

The recommendations are simply these:

Voluntary acceptance by all laboratories of an official evaluation test annually.

General adoption of a standard test to make statistics of venereal serology more uniform.

General adoption of a necessary minimum of equipment.

Rigid adherence to the latest authoritative method of procedure, including a definite and uninterrupted time schedule.

CORRELATION OF LIVER FUNCTION STUDIES

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JOHN T. ELLIS, M. D., F. A. C. S., F. I. C. S.

And

S. G. LATIOLAIS, M. D., N. A. R. S.

Dothan, Alabama

The problem of liver function is still one of the most confusing in medicine but, because of recent advances in the applications of chemistry and physiology to these studies, we are developing a clearer understanding of this subject. To study a list of the now known functions of the liver would indicate that no single test will ever suffice and that multiple tests are, and will be, necessary before a complete picture of the function of this complex organ can be had. In our studies, we have followed, with slight modification, the profile scheme of Watson¹ and have found it satisfactory. It is true that this profile entails a lot of work, and there are multiple sources of error, but the com-

posite picture is one which, in the light of our present information, can be relied upon.

In this presentation a brief reference will be made to the basic chemistry and physiology upon which these tests are based and a number of profiles illustrating the approach to the problem will be given. We have not, as yet, correlated liver biopsy with the profiles in all cases but strongly advocate this procedure. Conclusions made as a result of these laboratory studies have either been proven at operation or by the clinical course of the patients. We recognize the possible fallacy of the latter.

HIPPURIC ACID SYNTHESIS TEST

This test is based upon the synthesis of hippuric acid from benzoic acid. It is a detoxication process based upon the combining of benzoic acid with glycine to form hippuric acid. This is done principally in the liver but does, to a certain extent, occur in the kidneys. The ability of the kid-

From Frasier-Ellis Hospital and presented in part to the Houston County Medical Society, April 4, 1947.

1. Watson, C. J.: Studies of Liver Disease with Correlation of Clinical Features and Liver Function Tests, Wisconsin M. J. 43: 1033-1037, Oct. 1944.

neys to excrete may be reflected in the test, and for this reason a urea clearance² should be done simultaneously with this test. Boyce and McFetridge³ advise a PSP along with the test and, if the PSP is not 35% in the first hour, the hippuric synthesis can not be relied upon as a test of the liver function for the synthesis might have taken place but, in that urine is the product tested, it might not have been excreted in the urine by the kidney. Page and Preister⁴ demonstrated that in infectious hepatitis all cases had less than 90% excretion, the mean being 61%. During the next 9 days, the excretion rose to a mean of 78%. They showed a definite decrease in excretion in all cases of hepatitis.

This test may be positive—show pathological changes—before there is evidence of clinical signs of disease.² It is also of benefit in making prognostications. An output below 1.5 gms. usually indicates a very poor prognosis, whether the patient be a surgical or a medical one.

TOTAL PROTEINS AND ALBUMIN/GLOBULIN RATIO

The blood level of protein is altered by: 1. malnutrition—insufficient intake; 2. poor absorption—gastrointestinal disorders; 3. disturbed synthesis—liver damage; or 4. abnormal losses or destruction—burns, edema, fevers, and kidney diseases, such as nephrosis.

Addis et al.⁵ showed that the liver contained a liable reserve of protein which could be depleted during fasting and restored by protein feedings. Though not definitely proven for all proteins, it is now known that protein synthesis occurs in the liver. Embden, through perfusion experiments upon the surviving liver, demonstrated

this clearly. For the essential amino acids, special groups in the form of keto or hydroxy-acids had to be supplied before the amino acids were formed. Thus it seems probable that the plasma proteins, including fibrinogen, either originate in the liver or are derived from closely related proteins formed in this organ. In liver disease, there is a depression of regeneration of plasma proteins. On this fact, all investigators are agreed. Myers and Keefer⁶ found a protein deficit in all of their sixteen patients with cirrhosis of the liver. Teitelbaum et al.⁷ had 51% of patients with a reduction of total proteins and 85% with a reduction of albumin below 4 grams. Schwimmer et al.⁸ stated that in their cases with cirrhosis 40% of jaundiced and 52% of non-jaundiced patients had a low total protein and that there was a tendency toward reversal of the A/G ratio in 58% and 57% respectively. These figures are representative of those of all men reporting their findings. It is to be noted that there is a much smaller percentage of reductions in the total protein whereas, in a percentage approaching 100, there is a change in the A/G ratio with a more often depression of the albumin fraction. It has been categorically stated that serum albumin is formed with more difficulty than serum globulin, and, for that reason, there is usually found a hypoalbuminemia and hyperglobulinemia. It is definite that in the formation of edema and ascites the albumin fraction predominates in the fluid. This has been shown by chemical analysis of the fluid. From this, it can be understood that the total protein determination is inferior to the fractional determination, for there may be a relatively normal total protein but a reversal of the A/G ratio due to a high globulin content of the blood.

2. Kohlstaedt, K. G., and Helmer, O. M.: A Study of the Hippuric Acid Excretion as a Test of Hepatic Function, *Am. J. Digest. Dis. and Nutrition* 3: 459-466, Sept. '36.

3. Boyce, F. F., and McFetridge, E. M.: Studies of Hepatic Function by the Quick Hippuric Acid Test (Biliary and Hepatic Disease), *Arch. Surg.* 37: 401-420 (Sept.) 1938.

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PROTHROMBIN TIME

Prothrombin is formed almost exclusively in the liver, though Drinker et al.⁹ pointed out its being produced, to some extent, in the bone marrow. They prepared a fluid rich in prothrombin by perfusion of the bone marrow. Brinkhous et al.¹⁰ pointed out that as long as the prothrombin time remained 50% or above there was no tendency to hemorrhage, but when this decreased to 35% there was a definite tendency to bleed. This is a higher figure than that of Quick¹¹ who placed the percentage at 20 when the bleeding tendency began. Our experience would be closer to the former. The maintenance of a normal prothrombin time is dependent on two factors; namely, the absorption of vitamin K from the intestinal tract and, for this to take place, bile salts must be present in the bowel, and secondly, its production by the liver.

In parenchymatous liver damage, prothrombin concentration decreases due to its failure of production. In obstructive jaundice, there is a decrease in prothrombin time because of the lack of bile salts in the intestinal tract making the absorption of the essential vitamin K deficient. This being true, it is easy to understand why there is a failure of response to vitamin K therapy in parenchymal disease, whereas in obstructive jaundice, as pointed out by Lord and Andrus¹² and Olwin,¹³ there is a definite response to vitamin K therapy for the missing link is supplied by the vitamin. This has been shown by other investigators to be true.¹⁴ Shapiro and Richards,¹⁴ in

animals as well as in patients, pointed out that there were three types of response to the administration of vitamin K in parenchymal liver disease: 1. the prothrombin time remained at the original level for 2 to 3 days, then it increased for the same period of time only to recede to the original level; 2. when the prothrombin time was normal at the beginning, it increased slightly and remained elevated for a few days and then returned to normal; 3. a prolonged prothrombin time was initially reduced toward normal for 1-3 days. It then gradually fell toward the original level. Two of the cases presented demonstrate the third type of reaction described. One of the patients, though on from 1 to 3 mg. of vitamin K continuously for six weeks, had a deterioration in his prothrombin time, and the day before death bleeding from the nose, gums, and other mucous membranes occurred. Intravenous vitamin K had no effect on the bleeding tendency. It is our opinion that in cases where the extrahepatic biliary obstruction is the sole cause of jaundice, the vitamin K response is a reliable liver function test. One patient, whose profile is not included, was operated and a T-tube placed in the common duct and no vitamin K given postoperatively. She, in five days, had some blood on her dressing. Vitamin K controlled immediately this tendency to bleed. We doubt if this would have occurred had she had marked obstructive cirrhosis as we, in Case No. 1, could not control his bleeding with vitamin K.

CEPHALIN-CHOLESTEROL FLOCCULATION

Hanger¹⁵ demonstrated the value of this test in liver disease and pointed out that it was not a test of liver function but of liver irritation or injury. Moore et al.¹⁶ demonstrated the mechanism of the positive test to be based upon a reduction of albumin and an increase in globulin, especially the gamma globulin. The gamma globulin of normal serum fails to bring about flocculation because of the inhibitory action exerted by the electrophoretically separated albu-

9. Drinker, C. K.; Field, M. E., and Ward, H. K., Jr.: Filtering Capacity of Lymph Nodes, *J. Exper. Med.* 59: 393-405 (April) 1934.

10. Brinkhous, K. M.; Smith, H. P., and Warner, E. D.: Prothrombin Deficiency and the Bleeding Tendency in Obstructive Jaundice and in Biliary Tract Fistula, *Am. J. Med. Sc.* 195: 50, 1938.

11. Quick, A. J.: The Nature of Bleeding in Jaundice, *J. A. M. A.* 110: 1658, 1938.

12. Lord, J. W., and Andrus, W. W.: Differentiation of Intrahepatic and Extrahepatic Jaundice; Response of Plasma Prothrombin to Intramuscular Injection of Menadione (2-methyl-1, 4 naphthoquinone) as Diagnostic Aid, *Arch. Int. Med.* 68: 199, Aug. 1941.

13. Olwin, J. H.: Differentiation of Surgical Jaundice from Severe Damage of Liver (Subacute Yellow Atrophy) Clinically Simulating It, *Arch. Surg.* 43: 633, Oct. 1941.

14. Shapiro, S., and Richards, R.: Prothrombin Response to Large Doses of Synthetic Vitamin K in Liver Disease, *Ann. Int. Med.* 22: 841, 1945.

15. Hanger, F. M.: The Flocculation of Cephalin-Cholesterol Emulsions by Pathological Sera, *Tr. A. Am. Physicians* 53: 148, 1938.

16. Moore, D. P.; Pierson, P. S.; Hanger, F. M., and Moore, D. H.: Mechanism of the Positive Cephalin-Cholesterol Flocculation Reaction in Hepatitis, *J. Clin. Investigation* 24: 292, 1945.

min fraction. In liver disease, or in any conditions in which there is an increase in the gamma globulin to the point where there is insufficient normal components of the normal albumin fraction to inhibit the reaction, in disease causing a reduction of the serum albumin fraction below initial levels necessary to inhibit the reaction, or a diminution in the flocculation inhibiting properties of the albumin fraction, a positive reaction will be obtained. Hanger¹⁷ pointed out the efficacy of this test in distinguishing between obstructive and hepatogenous jaundice. In 105 cases, he demonstrated that all cases of hepatitis and most cases of cirrhosis would produce a flocculation, whereas only an occasional case of localized disease, such as abscess or tumor and cases of passive congestion, would show a positive reaction. In contrast, patients with obstructive jaundice had negative or only weakly positive flocculations. He also indicated several other diseases, such as in bacterial endocarditis, green streptococcus and strep. pneumonias, and pneumococcal pneumonias either terminally or with jaundice, in which a positive test might be obtained. In a study of 178 cases, Wade and Richman¹⁸ had 173 cases with parenchymal disease to give a positive flocculation. In 45 cases with discrete hepatic lesions, only 24 gave a positive result. In a group of 180 cases with suspected liver disease, 67 gave a positive flocculation. Twenty-one had cholecystitis with stones, 24 had passive congestion, and 8 were chronic alcoholics. In 105 controls, 19 gave positive tests, and most of these had some type of acute infection. False positives may be obtained because of the sensitiveness of the test, and some allergic conditions. The puerperium and the neonatal period have been most frequently incriminated. Schwimmer et al.¹⁹ found negative tests most frequently in cirrhosis without jaundice (62%), calculous obstruction (91%) and in early neoplastic obstruction (93%). In the remaining cases of obstruction, as mentioned, it was rare to find a response more severe than one plus. Low grade floccula-

tions were obtained in some cases of cholecystitis, malnutrition, diabetes mellitus, hyper- and hypothyroidism, lymphogranuloma venereum, lupus erythematosus disseminatus, pernicious anemia, multiple myeloma and nephrosis. Most of these diseases may be associated with liver disease and all will meet the three conditions under which Moore et al.¹⁶ pointed out that positive reactions could occur. It is noteworthy that in all groups of cases reported, when the disease was one with generalized liver damage, the flocculation was more intense than in diseases not primarily hepatic in origin.

Recant et al.¹⁹ compared the results of the cephalin-cholesterol flocculation with the thymol turbidity test and found that, as Maclagen²⁰ had pointed out, the thymol turbidity test was positive in hepatitis, cirrhosis, etc., but that this test was also positive in a number of conditions, not primarily liver diseases, in which the cephalin-cholesterol test was constantly negative. Included in this category were such conditions as normal sera, lipemic conditions, such as diabetes mellitus and nephrosis, biliary cirrhosis, metastatic neoplasms, and convalescent hepatitis, and also in laboratory animals, such as the dog, in which the cephalin-cholesterol flocculation is constantly positive. Thus, the tests have a different mechanism, and it appears that lipids are essential for a positive turbidity test, whereas this is not true for the cephalin-cholesterol flocculation. In sera, in which a positive turbidity test has been obtained, they could be made negative by ether extraction and could then be made positive by a variety of lipid preparations. A positive test, however, could not be obtained by lipids alone, and neither could serum, which has been negative, be made positive by the addition of normal serums or lipids. It must then be assumed that the presence of an abnormal constituent, in addition to lipids, must be present to give a positive test. It is thought that this abnormal element is in the serum globulin fraction but not primarily gamma globulin. We have had no experience with the thymol

17. Hanger, F. M.: Serological Differentiation of Obstruction from Hepatogenous Jaundice by Flocculation of Cephalin-Cholesterol Emulsions, *J. Clin. Investigation* 18: 261, 1938.

18. Wade, L. S., and Richman, E. E.: Cephalin-Cholesterol Flocculation Test, *J. Lab. and Clin. Med.* 30: 6, 1945.

19. Recant, L.; Chargaff, E., and Hanger, F. M.: Comparison of Cephalin-Cholesterol Flocculation with the Thymol Turbidity Test, *Proc. Soc. Exper. Biol. and Med.* 60: 245, 1945.

20. Maclagen: Quoted by Recant.

turbidity test, and can, therefore, have no opinions about its value. We consider the cephalin-cholesterol flocculation one of the most useful tests in the profile.

UROBILIN AND ITS COMPONENTS

The urine urobilinogen test, like the hippuric acid test, depends on the ability of the kidney to excrete, and this is a definite handicap, for, in many patients with liver disease and especially jaundice of long duration, kidney pathology in the form of cholemic nephrosis, etc., is present.

Bilirubin, on reaching the intestinal tract, is, by bacterial action, converted into urobilinogen. This is partially resorbed and carried back to the liver to be utilized. A part of it is used in the production of bile pigment. The urobilin is then excreted again by the liver. During each cycle there is a small amount excreted in the stool and another small portion is diverted via the blood stream to the kidneys where it is excreted and appears as a trace in the urine. In utilizing this test, it is well to remember that on standing, especially in the sunlight, the urobilinogen is converted into urobilin, and the test will become negative and undependable.

Elman and McMaster²¹ clearly showed that the urobilinogen, normally present in the bile, represents re-excretion of this pigment after its absorption from the intestinal tract. When the output of bile was completely diverted from the intestinal tract by a bile fistula, urobilinogen completely disappeared from the bile after that already present in the intestine has been carried away in the feces. They also showed that bacteria any place could convert bilirubin into urobilinogen as in cases in which cholangitis occurred in the animals with fistula. The results of this basic experimental work are applicable in patients. Patients with infections in the ducts (cholangitis), though there is a complete obstruction and urobilinogen could not normally be formed in that none of the bilirubin en-

tered the intestinal tract, may have abnormal quantities of urobilinogen in the urine as the bilirubin is converted by the bacteria in the ducts into urobilinogen. In complete biliary obstruction without cholangitis, there is a temporary increase in urine urobilinogen due to the inability to re-excrete the absorbed material resulting in its accumulation in the blood and excretion by the kidneys. This can be true only for a short period of time in that all the accumulated will be excreted. This is followed by a very low to a complete absence of urobilinogen from the urine.

The precursor of urobilinogen, urobilin, has been definitely proven to be produced by the reticulo-endothelial system wherever located, and it is apparent that the bone marrow is probably the chief source for, when the liver and spleen have been removed from an animal, urobilin formation proceeds at about the normal rate. Rich went further to show that this was an intracellular process. When fresh red cells were cultured with reticulo-endothelial cells, the former were destroyed and in a short time typical crystals of bilirubin and, in some instances, biliverdin, appeared. The liver cells only excrete the bilirubin formed in the reticulo-endothelial system.

In rare instances, urobilinogen is formed outside of the intestinal tract and independent of bacterial action. Rabinowitch²² reported a case in which a large quantity of urobilinogen was present in the urine in a patient with a sterile ovarian cyst containing an old blood clot and a high percentage of urobilinogen. The urobilinogen disappeared from the urine following extirpation of the cyst. Infarctions and hematomas are other such sites of origin.

In cases with a low to complete absence of urobilinogen in the urine, the stercobilin tolerance test, in which 50 mg. of stercobilin is given the patient intravenously and the 24 hour sample of urine is studied for the amount of urobilinogen contained, is a good test of liver function. By a process of reduction, this substance is reduced to urobilinogen and may then be excreted in the urine. This process is a function of the liver, and when large quantities of urobilinogen

21. Elman, R., and McMaster, P. D.: Urobilin Physiology and Pathology; Absorption of Pigments of Biliary Derivation from the Intestine, *J. Exper. Med.* 41: 719-738, June '25. Urobilin Physiology and Pathology; Urobilin and Damaged Liver, *Ibid.* 42: 99-122, July '25. Studies on Urobilin Physiology and Pathology; Relation of Biliary Infections to Genesis and Excretion of Urobilin, *Ibid.* 43: 753-783, June '26.

22. Rabinowitch, I. M.: Origin of Urobilinogen; Clinical Experiment, *Arch. Int. Med.* 46: 1014-1017, December 1930.

appear in the urine, following the intravenous injection of stercobilin, parenchymal liver damage is the expected cause. It should not be forgotten that on long obstruction of the extrahepatic bile ducts parenchymal damage is the rule.

In cases where the urine urobilinogen is moderately elevated, and the other tests for liver function show little change from normal, a bilirubin tolerance test should be performed. One mg. per kilo body weight is injected intravenously, and the amount of bilirubin retained after four hours is determined. The ability of the liver to excrete bilirubin is thereby tested. There are those who think this is a very sensitive test of liver function.²³ However, Watson and his associates^{24, 25} have had little encouragement from its use. We have not utilized this test.

There is normally a small amount of bilirubin in the blood. This has been variously stated as less than 0.25 mg. per 100 cc., 0.1 to 0.5 mg. and up to 1 mg. Vaughn and Haslewood,²⁶ in a study of 50 normal men and 50 normal women, found the value to be less than 0.8 mg. in 93% and to have a mean of 0.5 mg. per 100 cc. in those studied. There appears to be no constant ratio between the icterus index, which is simply a comparison of the yellow color of the serum with a standard and can be influenced by a number of things such as carotene, etc., and the total bilirubin of the blood. Jaundice will be present when the level of blood serum bilirubin reaches 2 mg. and this determination is considered of more value as to accuracy than the icterus index. Because of simplicity, once the survey has been made, the icterus index is a simple and accurate enough procedure to follow the course of the disease. We, because it is routine, have in-

cluded this in our liver function studies, and have found it to have a ratio of roughly 1:10 with the total bilirubin.

The van den Bergh test has not been used routinely, though it is considered, when properly interpreted, to be a very good test in the differential diagnosis of jaundice. Snell and Magath²⁷ have emphasized that, in any case of obstruction to the extrahepatic biliary radicles, there is almost at once some damage to the liver cells and, conversely, there is never a pure hepatic form of jaundice without injury or obstruction to the finer biliary radicles. We concur in this and, for that reason, we prefer Ducci and Watson's²⁸ method of determination of the total serum bilirubin. Amounts noted in one minute, again in 15 min. and the total serum bilirubin are reported. This gives a good picture of the immediate reacting bilirubin such as would be true in the direct response in the van den Bergh, and the 15 min. reading would roughly indicate the so-called delayed direct, whereas the total serum bilirubin is comparable to the total of the direct and indirect response in the van den Bergh. In obstruction it is found that the values reported in one min. and 15 min. make up the greater part of the total bilirubin. In our experience this test has been reliable.

Feces urobilinogen, as a test for liver function or biliary tract obstruction, has, for its basis, the conversion of bilirubin into urobilinogen by the bacteria of the intestinal tract. Watson¹ emphasizes the need for this determination, though, to the eye, it seems to be a certainty from the color of the stools that there may or may not be pigment in them. He uses four day specimens for it is unusual to find that any other condition, other than malignant obstruction, will reduce the feces urobilinogen to 5 mg. or less for such a period of time. Actually, the test is simply one which indicates whether or not the intestinal tract is receiving bilirubin. The ratio between the urine urobilinogen and feces urobilinogen can then be deter-

23. Soffer, L. J.; Dantes, D. A., and Sohotka, H.: The Utilization of Intravenously Injected Sodium d. Lactate as a Test of Hepatic Function to the Liver, *Arch. Int. Med.* 62: 918, 1938.

24. Watson, C. J.: Fate of Parenterally Administered Crystalline Urobilinogen; Urobilin Tolerance Test of Liver Function, *Proc. Soc. Exper. Biol. and Med.* 34: 377, 1936.

25. Hoffbauer, F. W.; Evans, G. T., and Watson, C. J.: Cirrhosis of the Liver: With Particular Reference to Correlation of Liver Function Studies with Liver Biopsy, *M. Clin. North America*, 29 (2): 363, 1945.

26. Vaughn, M. M., and Haslewood, G. A. D.: Normal Level of Plasma Bilirubin, *Lancet* 1: 133, 1938.

27. Snell, A. M., and Magath, T. B.: The Use and Interpretation of Tests of Liver Function, *J. A. M. A.* 110: 167, 1938.

28. Ducci, H., and Watson, C. J.: Quantitative Determination of Serum Bilirubin with Special Reference to Prompt Reacting and Chloroform Soluble Types, *J. Lab. and Clin. Med.* 30: 292, 1945.

mined and evaluated. In hemolytic states there may be a very high feces urobilinogen as well as urine urobilinogen, but the ratio will remain relatively the same. The normal values will be set out in the accompanying charts.

BROMSULPHALEIN TEST

Rosenthal and White²⁹ introduced the use of crystalloid phtalein for the use of determining liver function. This can be used in that it is excreted wholly by the liver. This immediately suggests a limitation for it is excreted through the bile ducts, and anything which obstructs the bile passages will influence the result of the test. This is actually the case, for in any patient with jaundice and in Watson's method of determining total serum bilirubin, a high 1 min. or 15 min. amounts of bilirubin or, in cases where the van den Bergh reaction is used, direct or biphasic reactions are obtained, the bromsulphalein test is not reliable. In hyperbilirubinemia and lipemia, of whatever cause, this test is of no value. Wade and Richman,¹⁸ as well as others, point out that this is one of the most reliable tests in localized or focal types of liver disease or damage. Two or five mg. per kilo body weight of the material is injected and the percentage remaining after 30 minutes is determined. In normal individuals, all of the dye will have been excreted in this period of time.

SERUM PHOSPHATASE

The enzyme phosphatase is formed chiefly in the bone marrow or by osteoblasts and passes via the blood stream to the liver where it is excreted in the bile. There is a marked difference of opinion as to its value in liver function studies. Flood, Gutman and Gutman,³⁰ Roberts,³¹ and Rothman et al.³² think that the test is of great value

whereas Bodansky and Jaffe³³ and Watson¹ doubt its value. Schwimmer et al.⁸ obtained encouraging results when this test was used in association with others similar to Watson's profile. They found a rather characteristic pattern in the response of this along with the icterus index and cholesterol determinations. In obstructive jaundice, because the phosphatase is excreted by the liver into the bile ducts from where it is resorbed, the value is high. This is true, to a greater extent, in cases of extrahepatic block than in intrahepatic obstruction. With the development of severe parenchymal damage, the value drops because of the inability of the liver to excrete the enzyme. The phosphatase and bilirubin levels do not or may not rise and fall together and this may be explained on the basis that bilirubin is excreted by the kidneys, whereas this is not true of phosphatase. Watson¹ states that, if his profile is to be curtailed, this would be one of the first tests to be deleted.

CHOLESTEROL

There is still much controversy about the exact mechanism of cholesterol metabolism but it is agreed that the liver plays the major role. Epstein and Greenspan³⁴ and Schwimmer et al.⁸ emphasize the significance of the cholesterol ester ratio in differentiating liver and biliary tract pathology. In obstructive jaundice both the total and free fractions rise, and this rise parallels the hyperbilirubinemia. In parenchymatous liver disease the total cholesterol either remains normal or declines and the esters are reduced sooner and further than the total, producing a ratio of less than 65% (normal ratio 65 to 75%). As previously stated, there is rarely a case of pure obstructive or parenchymal disease, but with this pattern variations can be easily included, for the predominate pathology will produce changes which characterize it. We have, to date, used only the total cholesterol but recognize the value ascribed to this test.

29. Rosenthal, S. M., and White, E. C.: Studies in Hepatic Function. VI. A. The Pharmacological Behavior of Certain of the Phthalein Dyes, *J. Pharmacol. and Exper. Therap.* 24: 265, 1924-25.

30. Flood, C. A.; Gutman, E. B., and Gutman, A. B.: Phosphatase Activity, Inorganic Phosphorus and Calcium of Serum in Diseases of the Liver and Biliary Tract, *Arch. Int. Med* 59: 981, 1937.

31. Roberts, W. M.: Blood Phosphatase and Van den Bergh Reaction in the Differentiation of the Several Types of Jaundice, *Brit. M. J.* 1: 734, 1933.

32. Rothman, M. M.; Meranze, D. R., and Meranze, T.: Blood Phosphatase as an Aid in the Differential Diagnosis of Jaundice, *Am. J. M. Sc.* 192: 526, 1936.

33. Bodansky, A., and Jaffe, H. L.: Phosphatase Studies: Serum Phosphatase of Non-Osseous Origin. Significance of the Variations of Serum Phosphatase in Jaundice, *Proc. Soc. Exper. Biol. and Med.* 31: 107, 1933.

34. Epstein, E. Z., and Greenspan, E. B.: Clinical Significance of the Blood Plasma in Hepatic and in Biliary Disease, *Arch. Int. Med.* 58: 860, 1936.

**CARBOHYDRATE FRACTIONS IN THE STUDY OF
LIVER DISEASE**

It is common knowledge that the blood sugar is lowered in liver disease, and Teitelbaum et al.⁷ emphasize the value of the glucose tolerance test in differentiating parenchymatous from obstructive liver disease. In their hands, 90% of parenchymatous disease showed an abnormal curve characterized by the following: if the test began with a normal or low fasting blood sugar, the level became elevated during the first or second hour to a higher than normal peak and fell to hypoglycemic levels during the third and fourth hours. Glycosuria and hypoglycemic levels may occur during the test and both reactions may be seen in the same patient. This type of curve is usually indicative of liver disease. They, as most other men reporting on the galactose tolerance test, were not impressed by its usefulness. We have not used either, but do routinely do a blood sugar on the patient, and any variations are noted.

The following brief case summaries with profiles are presented to illustrate the method we use in the study of patients with jaundice and suspicious liver pathology:

REPORT OF CASES

Case 1—J. P., a 17 year old white male, entered the hospital on January 18, 1947 complaining of spider nevi on the skin of the face, neck, arms and hands and thorax, of one year's duration. These lesions appeared first on the neck, then on the arms and finally on the face and thorax. He had had edema of the feet and ankles of six weeks' duration, abdominal swelling which was associated with loss of appetite and slight nausea, of three weeks' duration, frequent epistaxis of two months' duration, frequent headaches, moderately severe, and a loss of 20 lbs. in weight during the past three months. Recently, while in another hospital, he had fever ranging up to 104 degrees F., and had a straw colored fluid in his right pleural cavity. The stools had been of normal color and his bowel habits were regular. The urine was of normal quantity and of somewhat dark color. His weight loss had been localized chiefly to his shoulders, upper thorax and upper extremities.

His past history was significant in that he had had treatment for hookworms in which resorcinol and carbon tetrachloride

had been used, and approximately four months previously he had had a Toreck operation for undescended testicle and an inguinal hernia repaired. He had no other history of acute or chronic disease and had not been taking any other drugs or medications.

On physical examination, he had a slight icteric tinge in skin, conjunctiva and mucous membranes. Spider nevi with arterial pulsations, on pressure, were present on face, neck, upper thorax, arms and hands, the nasal septum was markedly deviated to the right, and the mucous membrane of the nose was a deep reddish pink. There were some dilated veins in the wall of the upper abdomen and lower chest. The lungs were clear and resonant. There was no fluid in the chest. The liver was palpable just below the right costal margin and the spleen was palpable approximately 10 cm. below the left costal margin. Shifting dullness was present in the abdomen, and both feet and ankles were moderately edematous and pitted on pressure.

His routine laboratory work showed a urine, acid in reaction, with specific gravity of 1.024, no albumin or sugar and microscopically negative. His blood showed a red blood count of 3,500,000, a hemoglobin of 62%, and a white blood count of 6,000 with a normal differential. Further examination showed this to be a normocytic hypochromic anemia. His non-protein nitrogen was 30 mg. %.

The provisional diagnosis was splenic anemia (Banti's syndrome) with a moderately advanced portal cirrhosis of the liver. He was then profiled, and Figure 1 shows the results of this study. His blood sugar was 70 mg. %, his icterus index was 35, his total protein 5.7, and his albumin globulin ratio 1 to 4 (albumin 1.2 and globulin 4.5); hippuric acid synthesis .5 mg./100 cc. urine, total cholesterol 160 mg. %, total serum bilirubin was 2.5 mg. %, prothrombin time, 70% with a prothrombin response to 80%. There was a urine urobilinogen of 4.5 and a cephalin-cholesterol flocculation of 1 plus. His phenolsulfonphthalein test was 80%. This profile is one of moderately severe liver damage but illustrates certain points of interest. The small amount of flocculation in the cephalin-cholesterol, as Schwimmer et al.⁸ have pointed out, may be negative or

He was placed on a high protein, high car-

FIG. 1

II	Icterus index
S	Sugar
H	Hippuric acid in gm., one-hour urine specimen (1. " gm. No benzoate i.v.)
SA	Serum albumin in gm. per cent
SG	Serum globulin in gm. per cent
CC	Cephalin-cholesterol, 0 to 4
B(2)	Bromsulphthalein, 2 mg. per kilo, in per cent retained
UU	Urine urobilinogen in mg. per 24 hours
SB	Total serum bilirubin in mg. per cent
TP	Total protein
TC	Total serum cholesterol in mg. per cent
PT	Prothrombin in per cent of normal
SR	Urine-stool urobilinogen ratio
FU	Feces urobilinogen in mg. per 24 hours
B(5)	Bromsulphthalein, 5 mg. per kilo, in per cent retained
BT	Bilirubin tolerance, per cent retained 4 hours after 1 mg. per kilo, i.v.
ST	Stercobilin tolerance, mg. (as urobilinogen) appearing in 24-hour urine after 50 mg.
PR	Per cent response of prothrombin toward normal after 1 mg. 2 methyl-1,4 naphthoquinone i.v.

bohydrate and low fat diet, liver extract and iron, methionine, intravenous albumin and plasma, and massive doses of vitamin B complex. His response was dramatic in that his ascites and edema disappeared, his liver decreased slightly in size, and his general condition improved markedly. During this time, he had been given frequent massive transfusions. Splenectomy was offered as the only other form of treatment, and, as this was being contemplated, he had a massive gastro-intestinal hemorrhage. Following this, his condition deteriorated to its original state, but again on treatment he responded nicely. He died seven weeks after his treatment was begun, following another massive gastro-intestinal hemorrhage from an esophageal varix and before splenectomy. With each of the massive hemorrhages his white blood count stayed within normal limits. The final diagnosis was Banti's syndrome, with portal cirrhosis of the liver and hemorrhage from an esophageal varix.

Case 2—B. M., a 40 year old white, slightly obese female entered the hospital complaining of intermittent attacks of abdominal pain, nausea and vomiting, dyspepsia and constipation of eight years' duration. Approximately nine days prior to admission, she was seized by severe abdominal pain which radiated into the right lumbar region, left upper quadrant and back, and associated with nausea and vomiting. She had generalized tenderness in her abdomen but this had almost completely subsided. On admission, she was complaining of epigastric and right upper quadrant tenderness, pain in the right shoulder and headaches. She had noted no change in color of skin, stools or urine. Her past history was otherwise negative except for a known tumor of the uterus of three years' duration.

On physical examination, she was found to have an icteric color in skin, conjunctiva and mucous membranes. There were no other lesions, such as spider nevi, abrasions from scratching, etc., of the skin. She had a high pitched systolic murmur in the mitral area and a blood pressure of 170/100. Her abdomen had a thick wall and she was tender in the epigastrium and right upper quadrant. The liver was palpable but the spleen could not be felt. She had a hard

nodular tumor attached to a movable and tender uterus.

Routine laboratory findings showed a urine acid in reaction, with a specific gravity of 1.020 and containing no albumin or sugar. It contained 3 plus bile; and, microscopically, the sediment contained hyaline and granular casts 1 plus, white blood cells 1 plus, and her phenolsulfonphthalein test was 35% in the first hour.

The provisional diagnosis was acute and chronic cholecystitis, with choledocholithiasis, and subsiding acute pancreatitis with edema, and a uterus containing fibromyomata. Due to the duration of the disease, an amylase test was not performed and a liver function profile was done.

The profile (Fig. 2) showed a hippuric acid synthesis of 1, a cephalin-cholesterol flocculation of 0, and icterus index of 35, and a total serum bilirubin of 4 mg. % with 3 mg. % in one minute. In a van den Bergh this would be an immediate direct reaction. Her blood sugar was 136 mg. % and the total cholesterol was 220 mg./100 cc. Her prothrombin time was 65% and the prothrombin response was 80%. Her total protein was 5.8 mg./100, albumin 3.2 and globulin 2.6 with a ratio of 1.5/1. The urine urobilinogen was 4.5. This profile is indicative of extrahepatic biliary tract obstruction. She was having fever which probably was due to cholangitis. The bacterial action in the ducts could have caused the conversion of bilirubin into the urobilinogen which appeared in the urine. The favorable prothrombin response which was maintained in subsequent follow ups point to extrahepatic obstruction. It is likely that she had some liver damage in that there was some change in her albumin-globulin ratio along with a moderate depression of her total proteins. The final diagnosis was chronic cholecystitis with cholelithiasis and choledocholithiasis.

Case 3—This 38 year old, markedly obese, white female, entered the hospital complaining of intermittent severe abdominal pain of several years' duration, associated with nausea, vomiting, constipation and mild headaches. With each attack, she would have soreness in the epigastrium and the right upper quadrant. She had never been jaundiced, had acholic stools, nor dark urine. Neither had she had chills and fever. Her past history was essentially negative. Her

7,200 and a normal differential. Her stools were positive for hookworms. She was profiled (Fig. 3) and found to have an icterus index of 5, a blood sugar of 120, a 100% excretion of bromsulphthalein in 30 minutes, a total protein of 6.5, with an albumin of 4 and a globulin of 2.5 (A/G ratio 1.5/1), a

Chart No. 37618

II Icterus index
 S Sugar
 H Hippuric acid in gm., one-hour urine specimen (177 gm. No benzoate i.v.)
 SA Serum albumin in gm. per cent
 SG Serum globulin in gm. per cent
 CC Cephalin-cholesterol, 0 to 4
 B(2) Bromsulphthalein, 2 mg. per kilo, in per cent retained
 UU Urine urobilinogen in mg. per 24 hours
 SB Total serum bilirubin in mg. per cent
 TP Total protein
 TC Total serum cholesterol in mg. per cent
 PT Prothrombin in per cent of normal
 USR Urine-stool urobilinogen ratio
 FU Feces urobilinogen in mg. per 24 hours
 B(5) Bromsulphthalein, 5 mg. per kilo, in per cent retained
 BT Bilirubin tolerance, per cent retained 4 hours after 1 mg. per kilo, i.v.
 ST Stercobilin tolerance, mg. (as urobilinogen) appearing in 24-hour urine after 50 mg.
 PR Per cent response of prothrombin toward normal after 1 mg. 2 methyl-1,4 naphthoquinone i.v.

cussion of the findings, though they were not too difficult from a clinical standpoint, do indicate what can be done through the utilization of a number of varied tests for liver function. This complete work-up, when interpreted accurately, and especially when associated with liver biopsy as practiced by Watson,²⁴ should be diagnostic in cases with liver disease. Many other schemes are in use, but we like this one and believe that the same type set of tests for multiple functions of the liver should be instituted

and adhered to. In that way a more thorough working knowledge of the scheme in use can be obtained.

SUMMARY

Through the use of multiple tests, each testing a known function of the liver, and correlating them into a pattern such as the profile suggested by Watson, accurate information of liver function can be obtained. A brief discussion of tests used has been given and three illustrative cases with profiles presented.

MANAGEMENT OF DIABETES MELLITUS, HAY FEVER, ASTHMA AND RELATED DISEASES

D. E. JACKSON, M. D.

Lester, Alabama

In the past three years I have come in contact with and treated 125 diabetic, asthmatic, and hay fever patients in this Clinic.

In the treatment of diabetes, several peculiar characteristics from a general and specific standpoint have been observed. In the beginning, I should like to say that I do not form an opinion by just a mere glycosuria, because I think that every one is aware of the fact that this may be due to alimentary, emotional, renal or various other conditions. Before treatment of any of my patients, they are admitted to the hospital and a complete blood and urinalysis, sugar tolerance test, and basal metabolism are always done. If at all indicated, a gallbladder function test and even sometimes a complete G. I. series is done.

After these patients have been completely worked up, regardless of the sugar curve, then their treatment is started, not from a diabetic standpoint but from the standpoint of the patient. My assumption by that is that the increase in blood sugar is an indication of a nutritional deficiency or a metabolic disturbance, and the increased sugar is not at all an indication that the patient's insulin is depleted or absent. It is a known fact that an increased amount of carbohydrates, or at least glucose, will inactivate insulin. It is also known that thyroxin contains sixteen per cent iodine and that this iodine, attached to the thyroxin molecule,

will inhibit the action of insulin. On the other hand, the sodium salt of iodine given by mouth to a patient will stimulate the pancreas to produce more insulin or not produce any effect at all. It is my sincere belief, on the basis of these facts and the manner in which I have managed my diabetics here, that a person with a hyperglycemia has more insulin in his blood stream than a person with a normal blood sugar.

Briefly, I will outline the method of my treatment. As stated above, the patients are completely worked up. If the metabolism is a plus or minus, regardless of how small the amount, I change that to the other side of the scale. I either take them completely off of insulin and give them a high carbohydrate, low fat diet and completely withdraw the insulin or put them on a high carbohydrate, low fat diet and gradually withdraw the insulin. In some instances patients who have been taking ninety units of insulin daily have been taken off of insulin entirely, given normal diets and changed their metabolism. If the metabolic reading was minus in the beginning, treatment was instituted in a manner to increase the metabolism; and, if a plus, treatment was instituted in a manner to lower the metabolism.

The patients who have come to this Clinic for treatment for the so-called diabetes, but have a gastro-intestinal condition, most commonly gallbladder disease, are treated entirely from a gallbladder standpoint. To date,

fifty per cent of the patients are either on normal diets without insulin or on gallbladder diets and being treated for gallbladder with strict gallbladder routine and no insulin. However, the other fifty per cent are on high carbohydrate, low fat diets and coming to the office every thirty days for blood sugars, and only two are taking insulin. For some reason, two of these patients are having to take insulin—one, five units daily and the other, twenty-one units daily. I would also like to say that any patient that is on protamine zinc insulin is much harder to control than a patient on plain insulin. It has been my experience that it is harder to change patients from protamine zinc insulin to plain insulin than it is to relieve completely the patient of having to take any insulin at all. Most of these patients have been treated with Upjohn's Zymocaps or Squibb's Therapeutic Formulas, one daily.

In the beginning of this article you will note that asthma and hay fever were also included in this discussion. That is due to the fact that my asthmatic and hay fever victims show an entirely similar blood picture to the diabetics, except their sugar is a little better tolerated. The eosinophils and lymphocytes are practically the same. In the treatment of these patients, I also disregard the so-called allergy and assume that the allergy is merely a symptom and a word that has no significance whatever. Most of these patients, after entering the Clinic, are also examined from a nasopharyngeal standpoint and the respiratory tract is relieved. I am thoroughly convinced that a submucous resection, unless nasal polypi are present, will always completely and promptly relieve hay fever.

Asthma is approached more from a standpoint very similar to that of diabetes. The metabolism is controlled, patients are put on diets for a short while and Lugol's or thyroid is administered, whichever the case might be.

CONCLUSIONS

I am definitely convinced that hyperglycemia is a symptom of a nutritional or metabolic disturbance, and that the words diabetes mellitus will only be known as a symptom and very easily controlled.

I am also convinced that asthma and hay fever are similar conditions and should be

considered from a standpoint of a patient being ill and not from an allergic standpoint. Also, I might add that multi-articular arthritis has some very similar characteristics. Just what is taking place in these patients, I cannot see definitely, but it is my opinion that a diseased thyroid may be playing a part, or that the condition is due to the trend of the present day American way of living. The vitamin B complex is deficient and the replacement of that may alter the transformation of glucose into a normal storage of glycogen.

Atabrine in Trichomonas Vaginitis—Few curable lesions may be more resistant to therapy than trichomonas vaginitis; the varying success obtained with the many preparations offered by the various pharmaceutical houses is a matter of record. We have recently seen 6 cases, and well remember many others in the past, in which the history was that of recurrent failures with all methods of treatment employed at present.

In the search for some chemical agent with which to combat this infection, our attention was drawn to the morphologic similarity between *Trichomonas vaginalis* and *Giardia lamblia*; this suggested that both organisms might respond in a similar manner to atabrine, which has been used successfully in the treatment of giardia infestations of the gastrointestinal tract.

Accordingly, we began using insufflations of atabrine (30 grains) in finely powdered boric acid (1 ounce). The cervix and vagina were first mopped dry; then about ½ ounce of this mixture was blown into the vaginal canal through a duck-billed speculum. A large cotton-tipped applicator was used to distribute the powder over the entire vaginal surface. The patient was advised to take a lukewarm vinegar douche just before returning for treatment two days later, but to avoid intercourse and other douches.

Four treatments were given at two-day intervals, and a vaginal smear was taken two days after the last treatment. All final smears have been reported as negative in our group of 6 cases. Some vaginitis has persisted for several days after the negative smear was obtained, and in one case a very severe chemical vaginitis forced us to discontinue treatment after the second visit. However, a smear taken several days later, after cessation of the vaginitis, revealed no trichomonad.

No systemic reaction has occurred in any case to suggest that there is appreciable absorption of atabrine through the vaginal mucosa; the only untoward reaction of any type has been local irritation of the vagina in some cases.—*Dula, North Carolina M. J., June '48.*

Fractures About Ankle Joint—Compound fractures of the ankle joint and various types of fracture and dislocation which may result are, of course, quite serious injuries insofar as the function of the foot and ankle are concerned. The wounds receive the usual surgical care and fragments are approximated and held in place by metal, if desired, or loose fragments are removed and discarded. It has been our practice for a good many years to debride these wounds thoroughly and irrigate them with saline solution, so that we felt we had done as complete a mechanical cleansing job as was possible to do, then we have closed these wounds primarily. I know this has not been the teaching in the Army, but in my own experience it has resulted satisfactorily, and I have had no cause to regret closing these compound wounds. We make no attempt to close them tightly. If suppuration develops, a suture or two can be removed, drainage established, and much of the skin defect which occurs on treating them without closure can be overcome by this method. There will be a surprising number of primary closures in these cases when adequate debridement and irrigation are done. Reduction is accomplished following debridement, and we are just as interested in an accurate reduction of the ankle joint fragments here as we have been in any of the previous fractures discussed. Penicillin or sulfa therapy, given systemically rather than locally, is desired, with the usual prophylactic measures in the form of tetanus and gas gangrene antitoxin. A cast is applied to the reduced fracture dislocation in the position previously described and worn for a period of from six to eight weeks. When drainage occurs, it may be wise to window the cast and dress the wounds through the opening. In many instances where nature is kind and the individual is young a satisfactory ankle joint may result. Where the distal surface of the tibia has been so severely traumatized that the joint surface is damaged, as in those cases where a fall from a height tears the ankle joint at its medial aspect and thrusts the tibia out through the wound, usually burying it in debris, aseptic necrosis of the distal end of the tibia frequently results and painful ankle with painful weight bearing may follow, even assuming that one does not have a septic ankle. Where this is of a severe degree and x-ray films show evidences of aseptic necrosis and disturbed blood supply, fusion of the ankle joint may be the ultimate result. Such fusions follow the usually accepted principles, with thorough removal of the cartilage from the entire mortise, usually sliding down a graft from the anterior aspect of the tibia and embedding it in the astragalus. Fixation may be assisted by the use of fixation Kirschner wire pins with the usual immobilization in plaster for a sufficiently long time to insure solid bony fusion. A stiff ankle joint is not too serious impairment in an individual and such patients can frequently engage in the most laborious types of occupation.—*Winkler, South. M. J., June '48.*

The Physician and Public Relations—The medical profession collectively and individually is giving its best thought to accomplish the means of obtaining and retaining and deserving the good will of the public. That has always been the goal of every successful individual, group, profession or industry. No individual is successful unless he has his own self-respect and the self-respect and good will of those with whom he comes in contact.

No profession has done more to obtain and deserve the everlasting gratitude of mankind than yours. The scientists by their experiments discover new methods of attacking enemies of the human race. The doctor applies the discovery to aid all mankind. All laymen should have a better knowledge of the fascinating and dramatic history of medicine.

The family doctor and general practitioner has always been your ambassador of good will. The patients of the fast disappearing family doctor knew that he was their friend and adviser, not only in medical matters but in various problems upon which their happiness depended. His patients felt and believed that he lived up to his time honored oath to "follow according to his ability and judgment whatever he considers for the benefit of his patients, and to abstain from whatever is deleterious or mischievous."

With the passing of the family doctor, and the migration of the people to the cities, and the division of the profession into so many specialized fields of medicine, and the scarcity of doctors in some sections, and the increasing costs of medical education, and the scarcity of nurses and the increasing costs of hospital facilities and the resulting increasing costs of medical services, we hear at times words of criticism and in some quarters a demand for some kind of socialized or governmental medicine or a change in the present system which would bring medical services and hospital facilities within the reach of a greater number of people and at prices which they can afford to pay. Various medical associations are experimenting with different forms of prepayment plans under which the system of free enterprise is retained and yet medical services are made available to a large group of the public through systematic savings. Plans like this, as you know, would be termed insurance and would require special legislation for an association to operate under that plan without making the deposits now required of insurance companies.

All of these changes have awakened in the profession a desire, prompted by the sincerest of motives, to maintain and to keep the good will of the public and to demonstrate by precept and by various modes of expression that the primary aim of the profession is to protect, preserve and improve the health of every individual, and that that can best be done by continuing the profession as a private one and not one practiced by governmental agencies—*Middlebrooks, J. M. A. Georgia, May '48.*

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DOZIER NAMED PUBLIC RELATIONS DIRECTOR

W. A. Dozier, Jr., of Hurtsboro, a graduate of the University of Alabama and Harvard, is the Association's Public Relations Director. Named to the position by the Association's Committee on Medical Service and Public Relations, Mr. Dozier assumed his responsibilities on July 1. His first days will be spent with Directors of other states, observing their programs, after which he will be in contact with Alabama's several County Medical Societies.

Mr. Dozier brings an enthusiasm that should give the Association an outstanding program, and in his efforts he will have the support of its entire membership.

CHEMOTHERAPEUTIC AND ANTIBIOTIC AGENTS

"Ten years have passed since the sulfonamides were introduced into general therapy in this country. Notable reductions in the case mortality rates of streptococcal, meningococcal and pneumococcal infections have followed the use of these drugs. The course of gonococcal, staphylococcal and other stubborn bacterial infections has been radically altered by therapy with the sulfonamides. One can say without exaggeration that the success, as well as the failures, of

the sulfonamides stimulated research that led to the development of penicillin and the discovery of streptomycin. Today the physician has a choice of chemotherapeutic and antibiotic agents with which to combat infectious disease. With several to choose from, it is essential that he select the drug wisely to serve the best interests of the patient."

The above is the opening paragraph of the very brief but most excellent resume' of this subject recently published by Long,¹ one of the pioneers in the practical application of these new therapeutic agents.

The Baltimore investigator then gives several tables showing which agents are best for use in various pathologic conditions. And the incidence of toxic reactions is included also. But, though these tables are excellent, lack of sufficient space precludes their inclusion here. Long goes on to tell us that, "It is obvious from the data presented that sulfadiazine is the least toxic of the four (sulfa) drugs listed. Although comparable figures are not readily available, sulfamerazine and sulfapyrazine appear to be somewhat less toxic than sulfadiazine.

"Toxic reactions have also been observed after the administration of the antibiotics. Initially, it was thought that penicillin was relatively nontoxic. As experience with this antibiotic has increased, however, toxic reactions, especially those of the urticarial and dermal type, have become more frequent. This type of reaction has practically disappeared as the antibiotic substance has become increasingly purified. A most serious and distressing reaction characterized by vertigo and impairment of hearing, however, has been observed in the course of streptomycin therapy. In certain cases the vertigo and deafness appear to be permanent . . . Skin rashes and urticarial reactions similar to those seen in the course of penicillin therapy have also been noted after streptomycin administration.

"It is my opinion that the time has come to inveigh against the local use of sulfonamides and the antibiotics. There is little evidence that when these agents are used externally as dusting powders, lotions or salves, the beneficial effects outweigh the

1. Long, Perrin H.: The Use and Abuse of Chemotherapeutic and Antibiotic Agents, New England J. Med. 227: 837 (Dec. 4) 1947.

known risk of sensitizing the patient. Nothing appears to be gained from treating a minor infection locally (when parenteral or oral therapy will achieve the same end) if the patient becomes sensitized to the drug and is deprived of its valuable effects, when later he may have an infection in which the agent might be life saving."

Long's resume', though brief, is most excellent and, coming from one with such experience, should receive the careful attention of the profession. And his warnings as to the toxicity of these preparations will, let us earnestly hope, not go unheeded. Every practitioner is constantly beset by patients who, having read or heard of the miracle drugs, promptly demand that they be given large doses of them. It is frequently not easy to refuse, because quite a number of patients are not impressed when told of the many and various toxic reactions that always impend. But, even though the vast majority of physicians may be well informed as to the dangers inherent in the use of antibiotics and the sulfonamides, and therefore cautious as to their employment, one great source of danger to the public remains unchecked. The over-the-counter sale of these powerful drugs, whether intended for oral administration or local use, should be abolished. Such potent and dangerous forms of medication should be dispensed by prescription only, and then it is up to the doctor to observe his patient most carefully so that toxicity can be reduced to a minimum.

HAROFE HAIVRI
THE HEBREW MEDICAL JOURNAL
TWENTY-FIRST ANNIVERSARY YEAR

The appearance of Volume I—1948 of the *Harofe Haivri*, The Hebrew Medical Journal, inaugurates the 21st successful year of its publication under the editorship of Moses Einhorn, M. D. The Journal's contents are not confined to technical medical topics but is divided into several sections covering a variety of related subjects of interest to the medical profession.

The founders had faith in the vitality and growth of modern Hebrew and foresaw that a Hebrew medical publication would be of service to the future medical department of the Hebrew University and of great value in the development and advancement of Hebrew medical literature.

The section on Palestine and Health contains an article by A. Klopstock, M. D. which discusses the high incidence of amebiasis in Palestine. Included also is the significant study of mental health in Palestine by A. H. Merbach, M. D., and a survey of the present urological conditions in Palestine by W. Boss, M. D. Dr. M. Buchman describes the history of the Hot Springs of Tiberias and presents a full analysis of their therapeutic value.

In the section on Historical Medicine, Dr. M. Gelber reviews the contribution of the Jewish doctors in Poland during the eighteenth century. The section on Personalalia contains a biographic sketch of Dr. I. Seth Hirsch, and his contributions to the field of radiology.

The original articles are summarized in English to make them available to those who are unable to read Hebrew. For further information, communicate with the editorial office of the Hebrew Medical Journal, 983 Park Avenue, New York 28, N. Y.

SOUTHERN MEDICAL MEETING
MIAMI, OCTOBER 25-28

Housing, both transient and permanent, is still critical throughout the United States; and hotel rooms are at a premium in every large city. The South has had its own heavily increasing pressure of expansion of population since the war. The now great size of the attendance at Southern Medical meetings makes its particular housing problem one with which few cities in its territory can cope. The hotel situation is improving slowly but will no doubt continue to offer difficulties for a number of years to come, and thus to limit the possibilities of selection of a convention city for the second largest general medical group in the Americas. These factors were essential influences upon the Executive Committee of the Association in its choice of a convention city.

The Executive Committee was unanimous in its acceptance of the invitation of the Dade County Medical Association to meet in Miami at this time. This will be a happy choice for physicians of the South. Programs and plans are now well under way for the forty-second annual meeting, and every sign points to a high attendance and a great scientific exposition.

The fact that Miami offers enough hotel space to house the guests of a large conven-

tion comfortably, and that few other cities in the territory are now able to do that, with the fact that the Miami meeting in 1946 was one of the most felicitous and most enjoyed of the forty previous gatherings, have made

this city again two years later the choice for the convention of 1948. There is no more beautiful and fascinating metropolis in the United States. The meeting dates are earlier than usual, October 25-28.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

D. G. Gill, M. D.
State Health Officer

PROTECTION AGAINST POLIOMYELITIS

Although considerable progress has been made in revealing the secrets of poliomyelitis, or infantile paralysis, experts in this field freely admit that they still have much to learn. One of the things they particularly wish to find out about it, but which thus far they have sought in vain, is how to protect people, children especially, against it.

We have vaccines which produce practically 100-per cent immunity to typhoid, smallpox, diphtheria and certain other diseases, while a measure of protection is offered against certain others, such as whooping cough, the common cold, influenza and measles. The question naturally arises: Why cannot similar protection—either virtually complete or partial—be provided against poliomyelitis?

There is reason to hope that such a vaccine will eventually be developed. It is gratifying to know that at least some of the discoveries which paved the way for the development of protective vaccines for some of those other diseases have already been made in the poliomyelitis field. For example, the causative virus has been isolated and, to a certain extent, identified. The very discovery that this is a virus disease—and not a nerve disease, as was believed so long—was itself significant. Success in producing cases almost at will in Rhesus monkeys and, in a few instances, in cotton rats and white mice, has, to a certain extent at least, followed the general pattern of communicable disease research. It seems not too much to believe, therefore, that the *opus magnum* of all medical research, a means of preventing people from contracting this disease, will become someone's gift to humanity in the not very distant future.

But the disconcerting, stubborn fact remains that that happy day belongs to the future. Until it dawns bright and clear and full of hope, we must reckon with stern facts as they are. One of them is that every one, even an adult, is a potential victim of infantile paralysis.

Unfortunately, this is a disease to which almost everyone is almost certain to be exposed at some time or other, regardless of how careful he and others may be. The early symptoms are mild and unlikely to cause the average person to think of this disease for some time after its onset. During all that time the unsuspecting and unsuspected victim maintains his normal contacts and associations, and his young friends take no more precautions against exposure to him than they do against exposure to anyone else. Another troublesome fact about poliomyelitis which makes its control more difficult is that a considerable number of persons develop it in such a mild form—known as abortive cases—that no noticeable symptoms at all appear. These persons, however, are as capable of transmitting the poliomyelitis virus as a youngster doomed to spend the rest of his life as a hopeless cripple.

"Probably the greatest source of infection is the large number of human carriers," declared a spokesman for the National Foundation for Infantile Paralysis in one of the Foundation's recently issued booklets. "These may be unrecognized abortive cases or carriers who are apparently healthy. The abortive cases may be only slightly ill for a few days with a fever and upset stomach, yet the virus may be active within them. One child was found to harbor the virus for 125 days after an illness of only a few days. There is no practical way of discovering who harbors the virus and for how long. Therefore, until more is known, it is impossible to prevent the spread of the virus

in a community. That is why it is advised that, during an epidemic, children be kept from meeting new groups of people, any one of whom might possibly be a carrier. Let us state again that the poliomyelitis virus may be harbored in a person's body without causing any disturbance whatever."

Human excreta, which harbors the germs and parasites that produce hookworm disease, typhoid fever and certain other forms of illness, has long been under suspicion as probably playing a similar role in the grim tragedy of poliomyelitis, and recent research has turned that suspicion into a positive and unequivocal guilty verdict. Indeed it has been shown not only that the poliomyelitis virus is discharged with body wastes but also that, hardy form of life that it is, it may survive for six months or even longer after being discharged. Moreover, as the already mentioned booklet points out, it "has also remained active in stools collected during the heat of summer from patients in Europe and sent to the United States for examination."

The 1941 poliomyelitis outbreak in this state, which brought 871 reported cases and 65 deaths, made a valuable contribution to the sum-total of scientific knowledge regarding this disease. For, from research carried on in north Alabama at that time came strong evidence that flies may, and, in some cases, do, act as a bridge of infection between its present and future victims. That epidemic and its possibilities in the way of poliomyelitis research were discussed by Dr. J. N. Baker, then State Health Officer, in an address on October 12, 1941, at a meeting in Atlantic City of the International Society of Medical Health Officers. After describing the Alabama outbreak (the worst by far in the state's history) and what the public health agencies and the medical profession had done to cope with it, he said:

"We are not so pessimistic as to believe that all is on the debit side, that the complete story of Alabama's 1941 poliomyelitis epidemic can be told in such depressing terms as death, invalidism, financial loss to victims' parents, the shriveling and crippling of children's limbs and the temporary upsetting of health department's budgets and carefully planned programs. In spite of all these things, we are glad that Alabama, in her great misfortune, has been able to pro-

vide an excellent laboratory for the study of this disease . . .

"In order that the widest possible use might be made of this opportunity, the Alabama State Department of Health invited the U. S. Public Health Service, the National Foundation for Infantile Paralysis and any other interested groups to send representatives for such studies as they might wish to make. The U. S. Public Health Service sent Dr. A. G. Gillam, poliomyelitis expert on the staff of the National Institute of Health. The National Foundation for Infantile Paralysis sent Dr. Albert E. Casey, of the medical faculty of Louisiana State University, who had previously done extensive research in poliomyelitis, and Drs. James Trask and John R. Paul, of the Yale University Medical School, then on special duty with the Foundation. In addition the Hygienic Laboratory of the U. S. Public Health Service and the University of Michigan are collaborating in these studies.

"We remember that a yellow fever epidemic in a small Mississippi town gave the late Dr. Henry Rose Carter the first substantial basis for believing that this disease is transmitted by mosquitoes and, as much as anything else, led to the epochal and far-reaching discoveries of Walter Reed which led, in turn, to the virtual eradication of this disease from civilized countries. Our most ambitious hope is that the Alabama poliomyelitis epidemic of 1941 will enable a comparable first step to be taken in the field of poliomyelitis control. If that cannot be realized, then we at least hope that Alabama's experience will yield knowledge which will lead to material progress in that direction. In either case, we shall feel that our people's anxiety and illness will not have been entirely without their rewards."

Dr. Baker's death less than a month after that Atlantic City address prevented him from seeing the realization of that bright hope. It was not until early in 1942 that the magazine *Science* published the report of some special studies carried on in Walker County during the 1941 epidemic. That report described the successful inoculation of monkeys with poliomyelitis viruses obtained from flies caught in Jasper, as well as some caught in Connecticut during an infantile paralysis epidemic in that state.

"The poliomyelitis laboratory established in Walker County by the National Foundation for Infantile Paralysis has already done much to establish the theory that flies play an important part in the spread of poliomyelitis," Dr. B. F. Austin, then State Health Officer, declared in a newspaper statement. He wrote:

"Flies caught in Jasper did not cause the first case of poliomyelitis known positively to have been transmitted in this way, as the Alabama experiments followed those carried on in Connecticut. However, all experiments must be successfully repeated before acceptance, and the results obtained in Connecticut were valueless until confirmed elsewhere. Alabama therefore has a large share of the credit for this important and possibly revolutionary discovery."

The report of the Alabama experiment read in part as follows:

"The second specimen of flies to yield the virus (of infantile paralysis) was obtained in the vicinity of Jasper, Alabama, where poliomyelitis was epidemic during July and August 1941. On August 20 a fly trap was placed near a privy used by three households where cases of poliomyelitis had recently occurred. On August 24 a sample of flies . . . was removed from the trap, packed in dry ice and mailed to New Haven, where they were prepared and inoculated into one (cynomologous) monkey . . . which developed poliomyelitis after an incubation period of nine days."

In spite of this definitive proof that flies are capable of transmitting the dread poliomyelitis virus from the sick to the well, it is not believed that they play an important part in the prevalence of this disease. A spokesman for the National Foundation for Infantile Paralysis has pointed out that "it is not easy to find the virus in flies" and "it has never been proved that human beings actually have contracted the disease through flies." Moreover, that same spokesman called attention to what medical men have long observed and commented upon: that "outbreaks do occur in districts where and at times when there are no flies." Nevertheless, the fact that flies trapped in an Alabama poliomyelitis epidemic area actually gave a case of this disease to a monkey emphasizes that this avenue of infection certainly needs to be watched.

Whether a potential victim of infantile paralysis will become an actual victim depends upon several factors, including, and particularly, the state of that person's general health. Just as some people can be around snifflers and coughers for hours at a time without having a cold, while others start coughing and sneezing after the briefest exposure, so some children remain entirely well after considerable exposure to infantile paralysis, while others become tragically crippled after only slight exposure. Like the factors which determine whether a person will become sick after exposure to other forms of illness, those determining one's chances of falling victim to or escaping infantile paralysis cannot be definitely ascertained or evaluated. However, enough is known about them to enable medical men to give some helpful advice to parents as to what to do and what to avoid doing during a poliomyelitis epidemic.

It has been pretty well established, for instance, that fatigue tends to make a person more susceptible to the disease, especially to its more severe forms. If a youngster has been playing baseball, football or some other game to the point of physical exhaustion, there is reason to believe that his body is less likely than otherwise to resist the infection if and when it occurs. Rest, which is strongly recommended for the prevention and cure of many diseases, from heart disease to tuberculosis, is also recommended as a means of escaping this one.

Physical cleanliness is also recognized as a means of defense against infantile paralysis. The hands should be washed thoroughly before eating and also before handling food to be eaten by others, lest they become the agents of infection.

We should be thankful for the knowledge which has already been gained in the warfare against infantile paralysis. Unfortunately, it has been somewhat meager, as compared with that acquired in the struggle against other great killers and cripplers. But substantial progress has been made. Even more encouraging, it is continuing to be made. There seems to be solid basis for the hope that it will not be so very long before this disease will have lost most, if not all, of its power to wreck lives by its crippling terror.

BUREAU OF LABORATORIES

H. P. Sawyer, M. D., Director

SPECIMENS EXAMINED

MARCH 1948

Examinations for diphtheria bacilli and Vincent's	289
Agglutination tests (typhoid, Brill's and undulant fever)	1,032
Typhoid cultures (blood, feces and urine)	943
Examinations for malaria	520
Examinations for intestinal parasites	3,664
Serologic tests for syphilis (blood and spinal fluid)	32,362
Darkfield examinations	27
Examinations for gonococci	2,936
Examinations for tubercle bacilli	2,861
Examinations for meningococci	3
Examinations for Negri bodies (microscopic)	137
Water examinations	1,081
Milk and dairy products examinations	3,199
Miscellaneous	618

Total 49,672

* * *

APRIL 1948

Examinations for diphtheria bacilli and Vincent's	231
Agglutination tests (typhoid, Brill's and undulant fever)	1,104
Typhoid cultures (blood, feces and urine)	933
Examinations for malaria	706
Examinations for intestinal parasites	4,652
Serologic tests for syphilis (blood and spinal fluid)	30,203
Darkfield examinations	23
Examinations for gonococci	2,863
Examinations for tubercle bacilli	2,839
Examinations for meningococci	1
Examinations for Negri bodies (microscopic)	123
Water examinations	1,501
Milk and dairy products examinations	3,205
Miscellaneous	645

Total 48,777

BUREAU OF SANITATION

Arthur N. Beck, M. S. in S. E., Director

THE NEW SEPTIC TANK RULES AND REGULATIONS

Contributed by

W. H. Gilmore, B. S., C. E.

Senior Public Health Engineer

On April 14, 1948, the State Board of Health met and adopted certain changes in the Rules and Regulations relating to sanitation. The regulations are similar to those previously adopted, except for the definition of a septic tank. However, the regulations enable the County Health Department to exercise control over the construction of

septic tanks in all parts of the county in contrast to the past, when only construction in areas covered by local ordinances could be controlled.

Relative to septic tanks, the new or amended Rules and Regulations as adopted are:

"Septic Tank: A water-tight tank or receptacle used as a temporary reservoir for the purpose of receiving or depositing the sewage, contents, or drainage from a water closet and which is connected with a system of subsurface drainage or other outlet in such manner as will afford final disposal of such sewage contents or drainage in a sanitary manner. Provided that no septic tank shall be installed having less than five hundred (500) gallons effective capacity, nor less than thirty-six (36) inches of effective depth. Provided further that the length of the tank shall be not less than 2 nor more than 3 times the width and shall be constructed in one integral unit. Provided further, that no tank shall be used which is not connected to a tile drain field, except under special conditions approved by the State Board of Health or its duly authorized representatives. No tile drain field shall be constructed with less than one hundred and fifty (150) feet of drain tile laid with not less than six (6) inches of porous filtering material under the tile. The size and length of the tile drain field; the depth of the filter material, and the size and the type of filter material shall be approved by the State Board of Health or its duly authorized representatives."

It will be noticed that a minimum effective capacity of 500 gallons and a minimum effective depth of thirty-six (36) inches are required. It will also be noticed that the use of circular tanks is limited. They must be constructed in one integral unit, precluding the use of brick, concrete blocks and such in the construction of septic tanks. That portion of the definition dealing with the disposal field is framed so that the County Health Department may require more than 150 feet of tile drain field and may also require more than six (6) inches of filter materials where conditions warrant additional length of line and depth of material. After the adoption of the new requirements there were inquiries from County Health Departments and septic tank manufacturers

with reference to the disposition of commercial septic tanks in the hands of dealers and plumbers which do not now meet the minimum requirements of the regulations.

It is not the wish of the State Board of Health to work an undue hardship on or penalize a dealer who might have been making an honest effort to provide sanitation facilities prior to the adoption of the requirements. It was not possible to notify all interested parties before the regulations were placed in effect. Therefore, for fear of being accused of showing partiality, none were notified.

It is felt that the most equitable solution to the problem is to permit the installation of commercial septic tanks now in the hands of the dealers; provided, of course, that such tanks meet the requirements of local ordinances and regulations. Jobbers or wholesalers who now, as of this date, have orders with manufacturers which cannot be cancelled may be permitted to use these septic tanks. All orders should be cancelled, if possible. Any order on which delivery cannot be made by December 1, 1948 should certainly be cancelled.

The County Health Departments were requested to contact all concerns in their respective jurisdictions which manufacture or handle septic tanks and acquaint them with the provisions of the regulations and the agreement as outlined above.

These new regulations were adopted because a tank as now required would be in accordance with good and recognized engineering principles. A tank which is not constructed water-tight will not function properly, hence the reference to the type material. Other states and the Federal Housing Administration, from experience and expert advice, require tanks with a minimum capacity of 500 gallons. The U. S. Public Health Service is at the present conducting a series of experiments on the subject and the indications are that the 500 gallon capacity will be the recommended minimum. The new requirements for the tanks are a result of long felt needs and requests by and from the County Health Departments. Studies of the requirements and recommendations of other states and agencies make it apparent that Alabama is only trying to keep pace with the best practices as known today.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS, FEBRUARY 1948, AND COMPARATIVE RATES

Live Births, Stillbirths, and Deaths by Cause	Number Registered During Feb. 1948			Rate* (Annual Basis)		
	Total	White	Colored	1948	1947	1946
Total live births.....	7045	**	**	29.2	30.7	23.0
Total stillbirths.....	176	**	**	24.4	28.1	26.3
Deaths (stillbirths excluded).....	2313	1330	983	9.6	8.9	9.0
Infant deaths:						
under one year.....	295	158	137	41.9	38.4	46.2
under one month.....	171	91	80	24.3	22.6	27.1
Typhoid and paratyphoid fever 1, 2.....					0.4	
Cerebrospinal meningitis 6.....	3	3		1.2	1.3	
Whooping cough 9.....	5		5	2.1	3.9	0.9
Diphtheria 10.....	4	2	2	1.7	0.4	
Tuberculosis, all forms 13-22.....	71	28	43	29.4	40.8	39.5
Malaria 28.....	1		1	0.4		0.4
Syphilis 30.....	27	2	25	11.2	11.2	11.3
Influenza 33.....	50	30	20	20.7	16.3	37.8
Measles 35.....	1	1		0.4		0.9
Poliomyelitis 36.....	1		1	0.4		
Cancer, all forms 45-55.....	189	139	50	78.4	73.9	74.7
Rheumatic fever 58.....	3	2	1	1.2		
Diabetes mellitus 61.....	28	21	7	11.6	13.3	9.6
Pellagra 69.....	11	6	5	4.6	2.1	1.3
Alcoholism 77.....	1	1		0.4	1.7	0.4
Intracranial lesions 83.....	213	114	99	88.4	81.6	94.7
Other diseases of nervous system 80-82, 84-89.....	37	21	16	15.3	***	***
Diseases of the heart 90-95.....	569	368	201	236.0	196.3	176.7
Diseases of the arteries 96-99.....	23	14	9	9.5	11.2	9.6
Other diseases of the circulatory system 100-103.....	7	3	4	2.9	***	***
Bronchitis 106.....	7	4	3	2.9	2.6	0.9
Pneumonia, all forms 107-109.....	173	100	73	71.8	52.8	56.0
Diarrhea and enteritis, under 2 years 119.....	8	5	3	3.3	3.0	2.6
Diarrhea and enteritis, 2 years and over 120.....					4.7	0.9
Appendicitis 121.....	8	5	3	3.3	5.2	2.6
Hernia and intestinal obstruction 122.....	13	10	3	5.4	6.0	8.7
Cirrhosis of the liver 124.....	13	9	4	5.4	3.0	3.9
Nephritis, all forms 130-132.....	154	83	71	63.9	62.7	72.1
Other diseases of the genito-urinary system 133-139.....	30	17	13	12.4	***	***
Diseases of pregnancy and childbirth 140-150.....	14	4	10	19.4	20.4	22.0
Puerperal septicemia 140, 142a, 147.....	4	2	2	5.5	5.4	5.5
Congenital malformations 157.....	22	17	5	3.1	***	***
Suicide 163, 164.....	16	15	1	6.6	8.2	5.6
Homicide 165-168.....	35	14	21	14.5	12.5	12.6
Accidental deaths 169-195.....	161	109	52	66.8	60.6	63.8
Motor vehicle accidents 170.....	58	47	11	24.1	20.2	22.1
All other defined causes.....	221	126	95	91.7	127.2	123.8
Ill-defined and unknown causes 199, 200.....	194	57	137	80.5	83.4	78.2

*Birth and death rates per 1,000 population; infant death rate and congenital malformations per 1,000 live births; stillbirths per 1,000 total births (stillbirths included); specific causes per 100,000 population; puerperal causes per 10,000 total births. All rates are based upon the February report of the years specified.

** Not available.

*** Included with "all other defined causes" in 1946 and 1947.

BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director
CURRENT MORBIDITY STATISTICS
1948

	Feb.	Mar.	E. E.* Mar.
Typhoid	0	2	6
Typhus	1	5	16
Malaria	11	32	70
Smallpox	0	0	1
Measles	346	314	828
Scarlet fever	47	37	88
Whooping cough	157	115	133
Diphtheria	19	20	34
Influenza	2051	1545	1275
Mumps	93	105	259
Poliomyelitis	5	6	2
Encephalitis	3	0	0
Chickenpox	186	254	175
Tetanus	6	1	3
Tuberculosis	168	227	224
Pellagra	2	2	6
Meningitis	16	9	16
Pneumonia	494	331	558
Syphilis	1820	1016	1655
Chancreoid	20	9	15
Gonorrhea	441	424	519
Tularemia	1	0	2
Undulant fever	1	3	6
Amebic dysentery	4	3	0
Cancer	253	252	0
Rabies—Human cases	0	0	0
Positive animal heads	33	50	0

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

	Mar.	Apr.	E. E.* Apr.
Typhoid	2	5	4
Typhus	5	9	12
Malaria	32	42	91
Smallpox	0	0	0
Measles	314	247	834
Scarlet fever	37	25	64
Whooping cough	115	163	180
Diphtheria	20	18	24
Influenza	1545	416	492
Mumps	105	97	221
Poliomyelitis	6	3	2
Encephalitis	0	0	2
Chickenpox	254	133	182
Tetanus	1	4	2
Tuberculosis	227	238	267
Pellagra	2	0	8
Meningitis	9	9	16
Pneumonia	331	318	425
Syphilis	1016	2218	1585
Chancreoid	9	18	8
Gonorrhea	424	441	488
Tularemia	0	1	1
Undulant fever	3	5	7
Amebic dysentery	3	5	0
Cancer	252	253	0
Rabies—Human cases	0	1	0
Positive animal heads	50	33	0

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BOOK ABSTRACTS AND REVIEWS

In appreciation of
Clarence K. Weil, M. D.
Book Review Editor of this Journal
from the date of its inception, July
15, 1931, to the time of his death,
May 5, 1948

Operative Gynecology. By Harry Sturgeon Crosen, M. D., Professor Emeritus of Clinical Gynecology, Washington University School of Medicine; Consulting Gynecologist to the Barnes Hospital, St. Louis Maternity Hospital, St. Luke's Hospital, DePaul Hospital, and Jewish Hospital; and Robert James Crossen, M. D., Assistant Professor of Clinical Gynecology and Obstetrics, Washington University School of Medicine; Assistant Gynecologist and Obstetrician to the Barnes Hospital and the St. Louis Maternity Hospital; Gynecologist to St. Luke's Hospital and DePaul Hospital. Sixth edition. Cloth. Price, \$12.50. Pp. 979, with 1334 illustrations. St. Louis: C. V. Mosby Co., 1948.

This is the sixth edition of a textbook that has appeared in successive editions for the last 23

years. This book has always been accepted as one of the authoritative works in the field of gynecologic surgery and this latest edition continues to maintain the high standards of the previous editions.

The book contains 979 pages in 24 chapters and every conceivable condition encountered in gynecologic surgery is discussed. Since the book apparently is intended as a companion piece to the authors' textbook of gynecology, the discussion of each condition is concerned primarily with the actual surgical treatment of that condition. For most diseases, several different methods of treatment are described and illustrated. For instance, in the section on operations for uterine suspension, the authors describe a total of 15 different techniques, varying with the symptomatology, the patient's condition, and the operative findings. Probably the most significant advance in gynecology in the last few years is the extension of practical means for the prevention of cancer of the ovaries, the uterus, and the external genitals. In the discussion of the diseases of each organ, treatment to prevent cancer or remove precancerous tissue is included and stressed. The authors base their preventive approach on two factors: (1) removal of precancerous lesions and (2) realization of the increased cancer potential as involution of the uterus and ovaries obtains. The section on the treatment of cancer of the uterus is especially complete and thoroughly covers both the surgical and radiologic treatment of this condition.

This book is profusely illustrated throughout, containing a total of 1334 illustrations of which 34 are in color. There are a few color photographs. For as outstanding a textbook as this is, the illustrations are frequently of very poor quality. Many of the photographs and drawings are almost worthless because of their vagueness and the poor printing.

There is a 20-page section on the urinary tract in relation to gynecologic surgery. This chapter covers, in a clear and concise manner, the recognition and treatment of injuries to the urinary tract which may be encountered. An equally good chapter on the intestinal tract is included. Chapter XXVII is entitled "Nervous and Mental Symptoms in Relation to Gynecologic Surgery." It stresses the difficulty in evaluating the pelvic symptoms in the nervous patient and the frequency with which surgical removal of lesions present in a nervous person totally fails to relieve her symptoms. There are several chapters in this book which are not frequently included in similar texts, covering such subjects as preparation of the patient for operation, after treatment, anesthesia, and medicolegal points.

This text covers the field of operative gynecology as completely as can be expected. Details of operations, the indications, contraindications, and technique are described as thoroughly as one could wish. This book has been recommended as outstanding in its field for many years and this latest edition will maintain its high esteem. It well deserves its place in the library of general surgeons and gynecologists.

Joe W. Perry, M. D.

Unipolar Lead Electrocardiography. Including Standard Leads, Unipolar Extremity Leads and Multiple Precordial Leads. By Emanuel Goldberger, B. S., M. D., Adjunct Physician, Montefiore Hospital, New York; Cardiographer and Associate Physician, Lincoln Hospital, New York; Diplomate of the American Board of Internal Medicine; Clinical Lecturer in Medicine, Columbia University Faculty of Medicine. Cloth. Price, \$4.00. Pp. 182, with 88 illustrations. Philadelphia: Lea and Febiger, 1947.

In this monograph, Dr. Goldberger presents the results of his extensive studies in the field of unipolar electrocardiography, and particularly the results of his studies with an "augmented" unipolar extremity lead which he developed. The deflections obtained in these "augmented" unipolar leads are one and one half times larger than those obtained by ordinary unipolar leads, and should, therefore, be easier of interpretation. Dr. Goldberger has, for the first time, approached the study of electrocardiography directly from the standpoint of unipolar leads rather than the usual approach of the three standard leads.

He advocates the use of twelve leads as a means of more accurately determining and describing cardiac abnormalities. In this book he has followed the practice of including the three standard leads, the three augmented unipolar extremity leads, and six unipolar precordial leads in the description of every cardiac abnormality. More complete knowledge of the physiology and

pathology of a given heart can be obtained with this comprehensive series of tracings. Dr. Goldberger explains all unipolar leads in terms of fundamental principles of physiology, and describes what he calls "basic unipolar lead patterns." From these basic unipolar lead patterns, interpretations of the precordial leads and unipolar extremity leads are somewhat simplified and rendered more accurate, in that knowledge of the position of the heart may be obtained and added to the interpretation of these leads, as well as to the standard leads. Furthermore, the standard leads can, by a very simple method, be correlated with unipolar extremity leads, thereby obtaining more critical information about the changes in electrical potential involved in the production of the familiar patterns of the standard leads.

These unipolar leads are proving themselves to be advantageous in many clinical situations because of the additional and more accurate information obtained. This is especially so in those situations where normal patterns appear in the standard leads, or where only minimal changes are apparent. In these situations the extra information obtained through interpreting the unipolar leads in terms of the basic unipolar lead patterns, and through correlation of these leads with the standard leads, prove most valuable. In this respect this volume represents an important contribution to the subject of electrocardiography.

Dr. Goldberger's book contains much of the material used in his course in advanced electrocardiography at the Montefiore Hospital in New York, and will appeal primarily to the more advanced and experienced student of electrocardiography. It is possible, however, that more widespread use of unipolar leads may result in a change in the approach which future texts will make to the subject of electrocardiography. If so, then Dr. Goldberger's book is a pioneer in the field of unipolar lead electrocardiography.

This monograph is divided into two sections and an appendix. Section I deals with the principles of electrocardiography and the normal electrocardiogram. In this section Dr. Goldberger discusses the physiologic principles underlying the production of the electrocardiographic tracing, the basic unipolar lead patterns, and ends with a study and discussion of the production of the normal electrocardiogram. Section II deals with abnormal electrocardiographic patterns. In this section Dr. Goldberger takes up the various cardiac abnormalities and the electrocardiographic evidence of these abnormalities. It is here that much emphasis is placed on the correlation of the standard leads with the unipolar extremity leads. The appendix is devoted to the reading and interpretation of unipolar leads. This monograph should be a valuable addition to the library of every physician interested in advanced electrocardiography.

J. M. Barnes, M. D.

Psychiatry for the Pediatrician. By Hale F. Shirley, M. D., Associate Professor of Pediatrics and Psychiatry, and Executive Director of the Child Psychiatry Unit, Stanford University

School of Medicine. Cloth. Price, \$4.50. Pp. 422. New York: The Commonwealth Fund, 1948.

The concept that personality defects, neurotic patterns and psychotic predispositions find their origins, for the most part, in early life is no longer a subject for psychiatric debate. While the recent advances in psychiatric therapy have been considerable, the greatest contributions to be anticipated remain, as in other fields of medicine, in the field of prevention. The position of the pediatrician in the chain of social and medical responsibility is a commanding one and anything less than a working knowledge of the material in this book in those who treat or intend to treat children must be considered an inexcusable delinquency.

The preface devotes itself to the origin and objectives of the book and the first chapter describes the basic concepts in child guidance. The author by no means discounts the influence of constitution as an etiologic force, and a growing literature justifies this stand. The wide swing from "nature" to "nurture" is settling down somewhat realistically somewhere between the two. It is to the credit of the author and his book that both Freudian and Meyerian concepts are integrated rather painlessly in this first chapter.

Chapter II concerns itself with development and habit training. The traumatic distortions of the growing personality emerging from faulty concepts of habit training are criminally too frequent and avoidable.

The third to the seventh chapters, inclusive, are devoted successively to physical, intellectual, emotional, sexual and environmental factors and problems. Dr. Shirley avoids the controversial and therefore is able to maintain the tenor of the text at a level suited to the needs of those for whom it is written. The treatment of the problems of psychopathic personality and juvenile psychosis could have been enlarged without the sacrifice of any of the author's objectives.

The next two chapters are devoted to the investigation and treatment of behavior problems. The outline suggested for a case history is most exhaustive and its use no doubt exhausting. The longer the student adheres to this plan, however, the more rapidly will he be able to undertake short-cuts with confidence. Some of the therapeutic techniques are briefly discussed and the reader is enjoined not to undertake the more elaborate ones without due thought to the damage that he may inflict. The final chapter concerns itself with "Mental Health in the Changing World" and a thoroughly adequate glossary is appended.

The author has most assuredly fulfilled the objectives described in the preface, and has gone beyond. While this is not an exhaustive text on orthopsychiatry and child guidance, it is considerably more than the "primer" which the author modestly classifies it as. It bridges admirably the breach between psychiatry and pediatrics.

Philip S. Bazar, M. D.

Laboratory Diagnosis of Protozoan Diseases. By Charles Franklin Craig, M. D., M. A. (Hon.), D. Sc., F. A. C. S., F. A. C. P., Colonel, U. S. Army Medical Corps (Retired), D. S. M. Emeritus

Professor of Tropical Medicine, Medical School, Tulane University of Louisiana, New Orleans, Louisiana. Second edition. Cloth. Price, \$6.50. Pp. 384, with 56 illustrations and 7 colored plates. Philadelphia: Lea and Febiger, 1948.

This book, by an author having forty-five years' experience in the field, fills a definite need. It is a manual of laboratory methods to be used in the diagnosis of diseases caused by protozoan organisms. These diseases have come more to the front since the return of our troops from foreign service. Each is dependent on laboratory methods for accurate diagnosis.

The author has collected in one volume valuable procedures, many of which have heretofore been hidden in the pages of journals, which have never appeared in texts on clinical diagnosis, bacteriology or parasitology. In each case he adds his estimate of its usefulness based on his own experience, or that of other workers.

The Critique of Diagnostic Methods following each section is of great interest. This suggests a scheme for a diagnostic procedure based on the author's experience. On the whole, the book is of real value to anyone having the responsibility of making laboratory examinations for the diagnosis of protozoan diseases.

Nellie K. Whitfield

The Battle of the Conscience. By Edmund Bergler, M. D. Cloth. Price, \$3.75. Pp. 296. Washington, D. C.: Washington Institute of Medicine, 1948.

This book is written by an eminent psychoanalyst who hews closely to the Freudian line but who extends this line far out into analytic infinity, where the rarefied atmosphere will not support life in the non-analytical psychiatrist beyond the first chapter. One oft-expressed exception to orthodoxy in analysis has been the emphasis on the libidinal theory. Dr. Bergler reflects the growing trend to place the super-ego on a relatively higher plane than it enjoyed in Freud's early works, underscoring to a greater extent the cultural influence by giving the idealized image a more important role without in the least jeopardizing the significance of the libido.

He reviews the concept of the super-ego, with its ego ideal and the malignant spirit arising in Freud's death instinct. He describes the emergence of neurotic guilt and the need for self punishment and sees in tender love, rationalization, work, sublimation and "pathos" antidotes for this guilt. He examines dreams, insomnia, criminality in terms of their relationship to guilt, describing old formulations and evolving new ones.

Dr. Bergler writes most authoritatively in his treatment of the subject. He refers frequently to other authors, both analytic and artistic, and to case material to exemplify his line of thought. Transitional continuity between chapters is frequently weak since the author inserts, somewhat abruptly, some of his previously published papers. This defect plus the arid style in no way lightens the reader's step in the heavy going. The advanced student of analysis, however, will find the book a valuable addition to his library.

Philip S. Bazar, M. D.

DR. BORTZ SAYS A. M. A. SUPPORTS EVERY PLAN FOR HIGHER LEVEL OF HEALTH

In addressing the House of Delegates of the American Medical Association at its semi-annual session in Chicago, June 21, 1948, President Edward L. Bortz, Philadelphia, said that "organized medicine has never failed to support any method which logically pointed toward a higher level of health for the American people."

"Far from being reactionary in attitude," he said, "the past history of the A. M. A. indicates a spirit, interest and aggressiveness in the search for better medical care. Medicine, as a profession, is socially minded in action and outlook. The effectiveness of its activities may be found in the simple yardstick of the life span. Since the turn of the century, medical science has brought about an increase in the length of human life to an all-time high of 67 years. The monetary benefits to the consumers, since we are consumer-minded these days, are beyond calculation."

The President of the American Medical Association said in part:

"A modern health program requires the participation of leaders from all walks of life in each locality. Because of their professional experience and training in the field of health and scientific medicine, members of the medical profession should assume leadership in the formulation of a satisfactory health program in every community. With emphasis on prevention, prophylaxis, and the maintenance of vigorous positive health, fewer patients should require hospital care, and the level of health should be improved. Likewise, the costs should decline.

"At the present time, the American Congress has a number of bills in process bearing on the problem of medical care in the event of national emergency. Discriminatory legislation for drafting physicians has been vigorously opposed by the American Medical Association. Such legislation is unconstitutional, and could not be sustained in court. Organized medicine is obligated to aid in the development of an over-all program which will adequately meet the needs of the entire population. The difficulty in drafting physicians and in placing the destiny of members of the medical profession in the hands of military authorities would

bring a marked deficit of personnel to care for civilian requirements.

"Past experience has demonstrated the vast amount of waste in personnel and equipment which occurs when non-medical officials are given responsibility for allotment of medical resources. Hard-won experience should not be disregarded in the present hour of national concern.

"In our favored land, leadership in medicine is essential if the full potentialities of modern medical science are to be realized. The scientific method in medicine has infinite possibilities for improving human beings.

"The troubled world today is hoping for social stability. Citizens of all nations are longing to return to the peaceful pursuits without the ominous threat of human destruction. It should not be necessary to descend to the barbarous rule of the jungle in quest of a better way of life. The members of the medical profession, schooled in the intricacies of the management of disease, also possess an insight into the inner emotional mechanisms of their fellow human beings. The physician intimately knows the hopes and fears and aspirations of those whom he serves. In this sympathetic relationship, he is a leader in his community. An organization of such leaders possess the capacity, and have an unexcelled opportunity, to influence social trends in the direction of a higher level of health for community and nation."

HOUSE DUST MAY CAUSE INFANTILE ECZEMA

The possibility that house dust is an important cause of atopic dermatitis, or infantile eczema, is advanced by Jerome Glaser, M. D., of Rochester, N. Y., writing in a recent issue of *The Journal of the American Medical Association*.

According to the article, there is no completely satisfactory treatment of infantile eczema and therefore "the problem is to do the best one can with a disease which is usually self limited, with a tendency to spontaneous remission and eventual recovery regardless of therapy."

Prophylactic, or preventive measures, such as avoidance of dust or irritating wool clothing, are considered important in the orthodox treatment of the disease.

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RECENT ADVANCES IN CANCER RESEARCH

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The story of cancer research today is quite different from that of twenty or more years ago. Among other things, public interest has increased to enormous proportions. So much about cancer and cancer research appear in the newspapers these days that Will Rogers' famous remark, "All I know is what I read in the newspapers," with the addition of magazine articles, radio addresses and other items, applies to many people. This is reflected in more questions and often positive statements made in physicians' consulting rooms, sometimes to the embarrassment of the physicians. Unfortunately not all of the statements in the lay press are accurate, for readily understandable reasons: not all cancer research yields spectacular results; in fact, some of the most important discoveries in any subject are without immediate drama. In addition, I am bound to say, not all statements in technical journals remain unchallenged, and now and again must be withdrawn or modified. Science progresses by approximations; interpolations are often hazardous.

In addition to increased tempo, another point of difference between cancer research now and a few years ago is its increased breadth. Many of the older clinicians, and especially the pathologists, were well aware of the ramifications of cancer into various disciplines. In some cases technics were not

adequate, in others the workers in diverse fields were so busy with their own problems that cancer was not attacked with their special tools. The wider recognition that the disease is part of the general problems of growth and development brought many workers into the field, and the breadth of attack now includes general biology and its special branches, various forms of chemistry, physics, psychology, botany and physiology, in addition to pathology, clinical medicine and public health. Among the improved tools for investigation are pedigreed strains of animals (chiefly mice), newer fields of chemistry and physics with their greater clarity of theory and more accurate measuring devices, and a clearer and more detailed knowledge of the processes of normal growth and development. Obviously, teams are required for advanced cancer research. Also obviously, in presenting a paper on cancer research, limitations of time require that a choice of topics be made, for the whole field cannot be covered. The usual custom is to divide such a presentation into sections, which has merit, but it must be remembered that separating subjects and placing them in isolated pigeon-holes tends to lose sight of an important feature of knowledge, viz., relationship. This is especially true of a subject in biology, for the very definition of a living subject states "an organism is a system devoid of isolated events." In whatever topics I may happen to choose, therefore, I shall try to point out relationships.

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**EXPERIMENTAL EMBRYOLOGY AND
PATHOLOGIC-ANATOMIC DIAGNOSIS**

Experimental embryology and genetics are inextricably linked. Geneticists, for many years, brought about controlled matings, waited until the results appeared, and then compared them backwards with the chromosomal apparatus which they knew had been united. Experimental embryology stepped into the middle and attempted to analyze how the particular results of any specific mating were accomplished. Even though the two subjects are closely intertwined, it still is useful for our purpose to separate them.

Over a period of twenty to thirty years numerous fundamental discoveries were made in the field of experimental embryology. They were linked with such names as McClung, Conklin, Duerkin, Waddington, Needham, Holtfreter, and, of course, Spemann. Innumerable fields were opened for further inquiry, and in the last ten to fifteen years the addition of detail upon detail has occupied most workers in the field.

There has been, therefore, a sort of hiatus in discoveries in the subject, but the implications of previous ones were diligently mopped up. We can confidently look forward to further major discoveries in this field in the time to come. I think it can be said without contradiction that much of the information in the field obtained in the last 25 years has not as yet filtered through into medicine and many of the principles have not as yet been applied to pathological anatomy. Some of these will now be discussed.

Broadly speaking, experimental embryology busies itself with an analysis of the influence of various parts of a developing embryo on one another; how one part, when it has grown and developed, influences the future course of development of itself and of all other parts of an organism. The analysis, furthermore, is carried to terms of the anatomic components of cells, and how they influence the development of the cell itself, i. e., its differentiation, and how that influences the surrounding cells and tissues. Eventually, of course, the goal is to state these influences in terms of the chemical constituents of the cells and the dynamics of the interaction of the intracellular chemical components.

Obviously, these considerations are as basic to the cancer problem as any possible mode of approach. It must be discovered how influences emanating from cells as they differentiate, and from tissues as they organize into the normal, differ when cancer originates and as it grows. It means the discovery of substances and mechanisms which control differentiation, and, when known, to try them (1) to determine their influence on tumor cells, and (2) when we know what chemicals are essential to build certain cell types, to study their deviation in cancer.

Cancer cells do not differentiate as do corresponding normal cells. Even though there are high degrees of differentiation in cancer cells, even to the point of producing specific chemical substances as a result of "chemical differentiation" in the form of specific hormones, as an example, nevertheless, there is always enough wrong with their differentiation for the experienced microscopist to recognize. In fact, this is the very basis of part of the pathological diagnosis of tumors.

Please note the statement that it is the *experienced* microscopist who can determine there is something wrong with the differentiation of cells. Please note, also, that I use the plural, cells, and not cell. It is quite obvious that the diagnosis of cancer from smears of the cervix, and prostatic, bronchial and other secretions depends entirely upon the differentiation problem. That there are degrees of differentiation in all cells, including cancer cells, admits of no doubt. Unfortunately, quantitative methods for the determination of degrees of differentiation are not available, for reasons which are easy to understand: each of the innumerable different types of differentiation requires a whole set of quantitative measuring devices. The determination then, microscopically, is a rule of thumb one, a qualitative measure based on that elusive thing called experience and that very difficult human endeavor called judgment. Obviously, the serious diagnosis of cancer from observation of single cells in smears cannot be done by the inexperienced, but must be left for those who have had large contact over long lengths of time with all sorts of microscopic preparations.

Tissue and organ organization or, to use the broad term morphogenesis, follows closely and intimately the differentiation of single cells. For pathological diagnosis of tumors, it is more important than cellular detail, for, while cancer cells do differentiate, even though abnormally, they never gather themselves together in the right numbers, at the right time, and in the right architecture to form organs and parts which function for and within the framework of an organism. Hence, the organizer phenomenon, that is, the way one part in development influences succeeding ones, is of the utmost importance in the understanding of cancer.

What is absent, or what has been added, or both, to make cancer cells unable to organize in the sense of the word as used above? The evidence is sufficient today to prove the guess of more than 100 years ago—that the trouble lies within the cells and that it is not in the environment, except insofar as the environment changes the composition and dynamics of the cells. This latter is the story of the carcinogens, of whatever kind they happen to be.

It is important to note in this discussion that emphasis is continually laid upon the organism as a whole—that, one part in developing influences other parts—that development is epigenetic and not preformed—that an organism is a system devoid of isolated events. This can be readily expanded into the philosophy of the organism such as expounded by, for instance, Whitehead, but put in very neat form centuries before by St. Paul in his First Epistle to the Corinthians, 12th chapter, 14th verse, and onward. But for this we have no time at present. Suffice it to say, for physicians it is the only philosophy to practice. It will keep the specialists in otolaryngology from believing that a human being is nothing below a line across the clavicles, or a gynecologist from believing that a woman is nothing but a uterus, two tubes, and two ovaries on a pair of stilts!

Obviously, cancer does not fit the organismal theory; hence it has been called lawless, anarchistic, and other names indicating its escape from the organization field. What causes cells and tissues to organize is a crucial question in experimental embryology, and why not in studies of cancer.

There is time for only a few highlights in the discoveries of experimental embryology. By means especially of transplantation, the potency of protoplasm has been shown to be far more than it was given credit. Thus, by transplanting a presumptive fore leg it can be made to develop into a hind leg; an eye into antenna or vice versa; a piece of ectoderm into mesoderm and vice versa. Briefly stated, the three germ layers can no longer be considered sacred. What this means for tumor diagnosis, and especially for tumor theory, I leave to you, assuming that most of you have been taught pathology in what I may call the old school.

On the other hand, there is a series of successive limitations in what cells can do. For example, if it is determined that certain cells are to become nervous system they can no longer become the lining of the gut, but they can do various things within the nervous system. As more of their potencies are determined, they can do less and less. For example, those cells which are determined to become eye cannot become hind brain. We must pause for a moment to consider the word "determination." It is not used in the subjective sense, as when we determine to go on a fishing trip, but in a technical sense it means that, of a number of possibilities, something happens at a given time which excludes all except one and this is called the point of determination. It will pay to dwell a bit on this concept. We cannot tell by any means at present just when determination has taken place within a cell, except by observing what the cell does either in its normal situation or after it has been transplanted. If determination has taken place it will do only what it was determined for it to do, even though transplanted to an entirely different environment than the one in which it lived when determination took place.

Among other implications in cancer I shall mention two. One is that pathologists examine a piece of tissue, as it was anatomically only in one instant of the life of that cell, i. e., when the surgeon removed it and it was fixed in formaldehyde or other fluid. It might have been different had it been removed an hour, a day, or a week before or after. Pathologists then attempt not only to name a given tumor but also to prophesy backward and forward as to how the cells

arose and what they would have done—all this from one instant in the life of the cell. The amazing part, especially in prophesying forward, is the accuracy with which this can be done. It is, in other words, a fair approximation.

On the other hand, one must not expect too much of this prophecy. Certainly one must expect nothing in an individual case, but only on a statistical basis. This disposes of the value of the histological grading of tumors for any individual patient. But of this I have written much, and also often stressed in the prognosis of tumors.

The second implication has to do with the question of when is a cancer cell not a cancer cell. Involved in this are the old subject of "prevention" of cancer, by, for instance, repair of torn cervixes, and the old subject of precancerous lesions. We hear much of "carcinoma in situ," especially in relation to the cervix but other parts as well. Now it is true that experimental embryologists have found that differentiation and development may occur immediately after determination has taken place or later, indeed much later. Since we cannot, by any means know at present, if determination has or has not taken place within a cell, it is not surprising that we cannot tell whether it has been determined in a given cell that its internal make-up has been changed so that it is a cancer cell. Only if the cancer cell, after it is determined that it is a cancer cell, begins to develop, produces daughter cells and descendants which invade and metastasize, can we tell.

There are, of course, two aspects. One is the practical one, viz., experience has shown that certain types of atypical cellular arrangement are liable to become actual invasive cancers and therefore should be removed, and second is the theoretical aspect on which future understanding must be based; we cannot tell unless there is invasion that a particular cell or groups of cells are cancer.

The behavior of normal cells has been studied, in tissue culture, both in slides and tubes, and by the elegant methods devised by Harry Greene—of transplanting into the anterior chamber of the eye of guinea pigs, rabbits and other animals. Greene states over and over, usually with glee, that a particular tumor diagnosed by ordinary

pathological means to be a carcinoma, when transplanted into a rabbit's eye, differentiated out into a connective-tissue-like appearance, and therefore is a sarcoma. He concludes, hence, that the original diagnosis was in error and should have been sarcoma instead of carcinoma. For practical purposes the answer is "So what?" For theoretical purposes the differentiation problem again comes to the fore, and shows once more how basic it is to our understanding of what cells do.

CARCINOGENS

Much has been learned about carcinogens during the last few years. For a time most of the research was devoted to discovering more and more carcinogens; now, more than 400 are known. It was hoped that some fundamentally important relationship would appear between carcinogenicity and the structure of the chemical compounds. Also in the background was the hope that a carcinogen would be found which was one or another of the normal compounds or intermediates of the human body. Actually no clear cut relationship correlating the various structures of the carcinogens and their powers to produce cancer has been found, although Haddow sees relationships between energy levels. As for finding carcinogens in normal organs, Schubarb, Steiner and Hieger found cancer-producing fractions in livers and other organs of both normal people and people who died of cancer, but only in about 20% of the cases. Tested in mice by injection, only a small proportion of the animals developed cancers at the site (about 10 %) and then only quite slowly (10-20 months). Compared with active carcinogens such as methyl cholanthrene or benzpyrene (100% in 2 to 3 months) they are quite weak. The methods used for extraction are drastic and yield non-saponifiable substances in small amounts which are then concentrated and injected. An analogy is with sex hormones which, with large doses, produce tumors, some of which are malignant. In the fractions are sterols, and cholesterol has been implicated, but it is not clear whether its activity is caused by a contaminant. At any rate, the search for naturally-occurring carcinogens must continue.

Some compounds found to be carcinogenic have also shown growth-inhibiting proper-

ties. This is nothing new. X-rays and radium are in the same category, for they too are growth-inhibitory under certain dosages, and also carcinogenic, as many of the pioneer radiologists will testify.

Some carcinogenic agents have been used in chemotherapy, such as x-rays and radium, radioactive phosphorus, urethane and 9,10-dimethyl-1,2-benzanthracene. One of the most cherished beliefs is that chronic irritation may lead to cancer. The idea has always been that it is through continued hyperplasia. To bolster this belief a carcinogen has been found which, while it produces, on oral administration, cancer of the liver, pancreas, kidneys, lungs, breast, colon and uterus—not heart or spleen—nevertheless is more active if hyperplasia is produced first. Thus, pituitary tumors appear after hyperplasia is induced by stilbestrol, and cancer of the thyroid appears after the administration of allyl thiourea or sulfaguanidine. This substance is acetylaminofluorene.

The first carcinogens synthesized, and/or isolated, produced tumors only at the site of administration, whether by painting on the skin or injection into subcutaneous tissue, but about 1935 it was found that orthoaminoazotoluene and dimethylaminoazobenzene when administered by mouth produced cancer of the liver. Subsequent studies showed that these substances were influenced by the diet. When biotin was absent and riboflavin increased there were fewer tumors; when the converse occurred, more tumors appeared. The natural inference was that these two substances did not act directly but were metabolized by a process in which biotin was active and the metabolic processes really produced the tumors. This has not been completely confirmed, even though metabolic studies have shown that a number of intermediates arising from the degradation of butter-yellow interfere with enzyme systems.

Among other substances acting when fed, or injected at a distance, is 4-aminostilbene which produces tumors at the site of injection and also in the liver, lungs and, curiously enough, in the external auditory canal.

The aniline cancers in man have been studied for many years, following the introduction of aniline into the chemical dye industry. It seems that one of the amines

manufactured, namely, beta-naphthylamine, is carcinogenic to dogs but to no other animals. If, however, two molecules of beta-naphthylamine are joined together (with the elimination of ammonia), the condensation product is carcinogenic to mice locally and to their livers.

All of this, and many more factors, point clearly to the necessity for further studies of the intermediary metabolism of these compounds.

As to the mode of action, Berenblum's ideas may be rehearsed. He divides the processes whereby, let us say, normal skin turns into cancer, into pre-, epi- and metacarcinogenic stages. The precarcinogenic stage is characterized by irreversible change. In pathological terms it might be called preneoplastic hyperplasia. It can be produced by a carcinogenic hydrocarbon but not by ordinary irritation such as is produced by croton oil.

The epicarcinogenic stage in which the hyperplasia turns to neoplasia, for instance to a wart, can be brought about by more applications of a carcinogen or by irritation due to croton oil.

The same is true of the metacarcinogenic stage, in which the wart turns to actual squamous cell carcinoma. Granted then that the field has been fertilized by a carcinogen, the blossoming forth of the preliminary hyperplasia into actual malignant neoplasia can be brought about by either a carcinogen or by the violently irritant croton oil. The prestage determines the number of tumors and the epistage the latent period.

All of this again has direct bearing upon the problem of when is a human carcinoma not a carcinoma, a type of thinking evidenced by such expressions as "carcinoma in situ." Perhaps also it has relationship to the latent period in, say, carcinoma of the breast, in which the surgeon has left a few cells from the original carcinoma 10 years before, and then activity begins after such a long latent period.

Finally is the thought that carcinogens entering cells may actually combine with tissue components, and perhaps produce a "rogue" enzyme which catalyzes large amounts of unregulated protein. Another idea is that it combines directly with protein to produce autocatalytic protein. But these are mere words of a different kind, describ-

ing an old observation; namely, that all of the carcinogens produce a similar anatomic and physiologic change in certain cells—namely, the malignant change.

While on this subject a word or two may be said about immunity to carcinogens. Carcinogens do not produce immunity when applied or injected, but produce cancer. If, however, they are attached as a prosthetic group to a protein molecule foreign to the species, and then the whole molecule injected into appropriate animals, an immunity develops against the whole molecule and extends to the carcinogenic group. The immunity can be demonstrated by serologic precipitation and inhibition reactions. These results are provocative of further work to isolate a normally-occurring carcinogen which could then be attached to a foreign protein and thus theoretically produce immunity toward carcinogenesis.

GENETICS

Our next subject concerns genetics, and I call your attention to a few ideas which have been expressed from fundamental work in unicellular animals. We shall remember that the old question of which is more important, heredity or environment, has no meaning when asked in terms of cell physiology. We seek, given any characteristic, what relative influence have heredity and environment on its appearance. If embryology is interested in the relative roles of nuclear and cytoplasmic constituents in various growth processes, so is genetics. It is also well to remember that there is a genetics of individual cells (the malignant cell transmits its malignant properties to its offspring), of tissues, and of the organism as a whole.

Working with paramecia, Sonneborn states that one strain produced a substance in the cytoplasm which was lethal to other types when they were mixed in culture. Mating types in these animals are inherited as a Mendelian character. Apparently there were two races, one a "killer," the other a "sensitive." The killer substance seems to depend upon a gene which influences cytoplasmic bodies that produce the substance itself. This seemed to be good evidence for a concept long held; namely, that there could be particles like genes in the cytoplasm. A recent term for such particles is plasmagene.

However, Preer has found that the plasmagene were measurable particles in the cytoplasm and that they contained desoxyribose nucleic acid. They are too big for viruses but just about the right size for rickettsias. Special staining technics finally brought them out as definite particles. The particles are no doubt of importance, and their relationship and significance when worked out will be useful for virus theories of cancer. Haddow thought that the particles, and what they were supposed to do, might have a bearing on cancer, because if it were really a gene mutation from cytoplasmic influence it might be the key for further study of the famous somatic mutation theory of malignancy. Actually, the studies of Demerec show that many carcinogens do produce mutations in the chromosomes, so plasmagene are not necessarily the whole story.

A brief word about cancer and its inheritance in man.

H. G. Wells has called man a heterozygous bastard, meaning, of course, that non-identical genes are contributed by respective human parents. The question may be asked appropriately, for what characteristic is he heterozygous? Every organism derived from two parents is heterozygous for some character. This is especially pertinent when it is now found that strains of mice previously thought to be homozygous in all details studied are divisible into, sometimes, dozens of sublines for even two or three factors, let alone a dozen or more. Such important details in cancer as the milk factor, hormonal balance, indeed even the very predisposition to cancer that everyone talks about, come under this category. Man breeds at random, is highly heterozygous, but recessive characters do appear. Blue eyes, for example, continue to appear with great regularity, in every generation, in certain families, indicating that such individuals are homozygous for at least that one character. If a predisposition to cancer is inherited, it might be a recessive. In such case only those who are homozygous need be worried. But from the studies already made the inheritance is extremely complex, depending on many genetic factors.

Since there are thousands of genes and all can change, the chance that two parents are entirely alike is infinitesimal. Only for those offspring in which identical genes are

contributed by both parents can the characters we call recessive appear, and then perhaps only when the proper environmental factors are operative. All of this being difficult, if not impossible, to evaluate at present, let us all continue to record as accurately as possible family histories in which cancer appears with more than the usual frequency. Let us also continue to record cases of cancer occurring in identical twins.

I cannot close this subject without a reminder that mutations can be produced by irradiation, and that we use not only external irradiation from x-ray tubes and radium but also internal irradiation. Mutations have been produced in cells by radioactive phosphorus, and this is not the only radioactive isotope in use. Information is rapidly accumulating as to the difference between irradiation applied externally and from within the cells after they have absorbed a radioactive isotope. A few figures such as the following can be presented, subject of course to modification as new knowledge appears. A single dose of 10 microcuries of P32 is equivalent to about 200 r in terms of total body irradiation. 400 r of x-ray irradiation at one time produced lymphomas in about 50% of mice in 100 days. When the 400 r was delivered in three or four doses a larger percentage of tumors resulted. Fewer tumors appeared when the dose was divided ten or twelve times. Compared with this a single dose of 10 microcuries of radioactive phosphorus was followed by 50% tumors in 200 days. Call the genesis of tumors a somatic mutation if you like. At any rate, irradiation whether applied internally or externally can cause tumors.

Among many other subjects which could be presented I choose for a final one chemotherapy. Fortunately, the trial of methods other than the standard ones of surgery and irradiation have gained a bit of respectability in the last few years. This is due perhaps to the conviction that unless substances are tried nothing will be found, and also to the fact that in the literature there are a number of what might be called leads which deserve further study. Chemotherapy is therefore not haphazard, like hunting the needle in the proverbial haystack, for the results of certain fundamental research lead logically to certain trials. As an example,

some substances are present in greater concentration in cancer cells than in fixed tissues, for instance, folic acid and inositol. Many more substances also have been found with a differential. It is more logical at present to try to find what cancer cells have more of rather than what they have less of. For instance, cancer cells are said to have less calcium—perhaps by squandering their capital of calcium through repeated subdivision. If, in spite of the more rapid division of cancer cells than the ordinary cells of the body, they have more of a substance, the news is more exciting from the point of view of chemotherapy.

Roughly, substances of possible use in chemotherapy can be divided into (1) those which interfere with mitosis, such as colchicine, (2) destructive substances, of which a few inklings are beginning to appear, and (3) differential growth inhibitors or, as they are called, antimetabolites. An example of the latter type is Teropterin, which interferes, theoretically at least, with the metabolism of folic acid. Fourth, we have selective cell poisons. Among these are the nitrogen mustards and bacterial polysaccharides.

Time does not permit details but I might call your attention to several necessities: one, close liaison between workers in fundamental research and clinicians (this is usually accomplished by the pathologist); and two, when a substance with some promise is supplied for use, that the most accurate kind of records be kept of every detail, however small, for guidance of further work.

Altering the structure of substances by what seems to be the slightest change often results in profound difference in physiologic activity. As an example, Shear and his group at the National Cancer Institute have tested many hundreds of compounds made one after another in a perfectly logical fashion. Of these, some 8 or 9 have given sufficient promise for further exploration.

In our own Institute a number of antimetabolites other than Teropterin are in process of synthesis and test. For further progress in the logical manipulation of these molecules it is necessary then to have full details as to effects—toxicity, side reactions, and any other information which turns up. We appeal to clinicians for their serious consideration of this matter, and for at least a number to give active help in this program.

It is very sketchy at the moment and nothing can be promised but it is at least a start in systematic research.

I hope this presentation, sketchy as it has been, and very incomplete, has been of some interest at least. Those of us in active

research enlist the encouragement and support of clinicians. We shall tell them how we are thinking and working, and any especially unusual observations are welcome for thought and possible experimental attack.

COMMON NEUROSURGICAL PROBLEMS IN GENERAL PRACTICE

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It is felt, however rightly, that this discussion should not be limited to any one phase of neurosurgery with all of its technical aspects. It is believed that there would be more interest in the common problems faced in everyday practice which might be sent to a neurosurgeon. It is manifestly impossible to cover any one of these subjects in detail, so omissions concerning each of these syndromes should be overlooked as they become evident.

The subject of *brain tumor* covers a large field and should be presented only in the light of a diagnosis to be suspected as certain pertinent points arise in the history or in the examination. That it occurs frequently is well known. It affects either sex and all ages from the infant to the senile. The symptoms of *headache* and *vomiting*, plus the finding of *choked disc*, are the classical ones pointing to a diagnosis of brain tumor. It is true, however, that the headache may be minimal or very severe. Vomiting is not an essential symptom, nor is the presence of a choked disc necessary to make a diagnosis of brain tumor. However, if a choked disc, or papilledema, is found in any patient, that patient should be considered to have a brain tumor until it is proved otherwise.

One of the more common symptoms of a brain tumor is the occurrence of *convulsions*. These convulsions may be generalized or they may be Jacksonian in type, indicating one particular area of the brain wherein the cortex is irritated. As a general rule, it is held that *any convulsion after the age of thirty* should be regarded as a surgical lesion until it is proved otherwise. We know, of course, that arteriosclerosis, cortical atrophy

and central nervous system syphilis can cause convulsions, but the more common cause of convulsions after this age is brain tumor. It is also held by most neurosurgeons that any focal fit or Jacksonian type of convulsions at whatever age usually turns out to be a surgical lesion.

The occurrence of *uncinate fits*, wherein the patient complains of a sudden flash of a peculiar odor or taste which passes off immediately, points to an expanding lesion, usually a tumor, of the uncinate gyrus at the base of the temporal lobe. These are often overlooked and only a careful history can draw out such a complaint.

Anosmia constitutes an important neurologic symptom, particularly in so far as brain tumor is concerned. Unilateral anosmia may mean that the olfactory nerve is being compressed by the arising of an olfactory groove meningioma at the base of the brain.

Diplopia is commonly seen in brain tumors and is one of the more valuable and reliable symptoms. The abducens nerve, in its long course across the base of the skull, may be compressed by generalized increased intracranial pressure so that the patient develops a strabismus. It is of no localizing value. It does, however, point to the fact that the intracranial pressure is increased.

Ataxia is a common and valuable symptom in that it may direct attention to a tumor of the cerebellum.

Any *progressive paralysis* should be considered as being due to a space-occupying lesion which is expanding within the brain. A paralysis which comes on suddenly, while usually attributable to a cerebral vascular accident, must still be regarded in a suspicious light because of the fact that a high

percentage of all so-called strokes actually represents hemorrhage into a brain tumor.

The prime concern of the neurosurgeon is in brain tumors and their treatment. It seems of interest that the surgical mortality following the removal of a brain tumor is usually under ten per cent. Some sixty per cent of all brain tumors may be cured. There is, however, a large percentage, between thirty and forty per cent, of all brain tumors which are malignant or potentially malignant and for which surgery is useless. It remains for the scientists of the future to find the cure for these malignant tumors, just as they must for the treatment of cancer elsewhere in the body.

The *neuralgias* constitute a common complaint. There are certain specific entities which should be recognized and for which there is specific surgical treatment.

Tic douloureux, or trigeminal neuralgia, or trifacial neuralgia, all of which are synonymous terms, is recognized as a sharp, shooting, lancinating, paroxysmal type of pain radiating into one of the three divisions of the trigeminal nerve. This pain may be precipitated by touching a so-called trigger zone. It occurs in individuals over the age of forty.

It can be said that the medical treatment of *tic douloureux* is a dismal failure and that there are only two known methods which will give any degree of benefit for this painful disability. One is the *injection* of the peripheral branches of the trigeminal nerve with alcohol, which will give relief for six to twelve months. These injections can be repeated, but with decreasing periods of relief, so that operation is eventually necessary. The *surgical* treatment of *tic douloureux* is extremely satisfactory in that the pain is permanently relieved through an innocuous surgical procedure which carries less than one per cent mortality. This operation can be done at all ages and there have been patients over the age of eighty who have been operated upon with complete relief of pain. The operation consists of a partial rhizotomy between the Gasserian ganglion and the pons. The period of hospitalization is short, usually less than seven days, and the only disability is that of anesthesia over the corresponding portion of the face. There is no paralysis following the operation.

The other well known major neuralgia involving the face is that of *glossopharyngeal neuralgia*. It is characterized by the same type of sharp, shooting, lancinating, paroxysmal, shock-like pain which radiates from the tonsillar fossa down the posterior pharynx. It may radiate up to the external auditory meatus of the ear. This pain can be relieved, for diagnostic purposes, by the application of cocaine to the tonsil. The tonsil serves as a trigger zone in glossopharyngeal, or ninth nerve neuralgia.

There is only one method of treatment for glossopharyngeal neuralgia and that is the *intracranial section of the ninth nerve*. This technique has been so refined that it carries comparatively no mortality and there is no residual disability.

There are other more obscure *neuralgias* involving the face, such as neuralgia of the nerve of Wrisberg, or the *nervus intermedius*. This is a very rare type of sharp, shooting, lancinating pain which radiates into that portion of the external auditory meatus supplied by that branch of the seventh nerve. Surgical treatment is indicated and consists of section of the *nervus intermedius*, a rather difficult surgical procedure.

Sphenopalatine, or Sluder's neuralgia, is mentioned in all textbooks, but must be infrequently seen. It is generally considered now to be a functional type of face pain. There is no specific description of the pain, although relief has been obtained by cocaineization of the sphenopalatine ganglion by the otorhinolaryngologist.

The *brachial neuralgias* can be divided, for practical purposes, into pain of the shoulder, arm and hand caused by an *anterior scalene syndrome*, or a cervical rib, which must be differentiated from the same type of pain caused by a *protruded cervical disc*. These are two well known syndromes. The anterior scalene syndrome has fallen into disrepute, probably because it was confused for so long with the unrecognized existence of a protruded cervical disc. We are now operating upon these so-called failures of section of the scalene muscle and removing the protruded cervical disc, which does give relief. The differential diagnosis is fairly simple. Contraction of the scalene muscle causes an obliteration of the pulse of the affected side. The brachial plexus is

tender and there may be anesthesia and even paralysis involving the ulnar nerve which is made up from the lowermost roots of the brachial plexus. There is always a vascular component in an anterior scalene syndrome. The *cervical disc* is characterized by pain which usually begins in the cervical spine, radiates down the shoulder and arm and is made worse upon motion of the neck. Pressure upon the head will reproduce the pain. The brachial plexus is tender; there is a patch of anesthesia corresponding to the two most commonly involved roots, either the sixth or the seventh cervical nerve root. If the anesthesia involves the dorsum of the thumb and the biceps reflex is gone, the disc is at C-6 and 7. If the anesthesia extends over to involve the dorsum of the index finger, and the triceps reflex is gone, the disc is between C-5 and 6. Surgical treatment of both these syndromes has been so refined that there is little mortality risk and the results are excellent. As a matter of fact, the results from surgery of a protruded intervertebral cervical disc seem better than the results for removal of a protruded lumbar disc. In a series of over three hundred lumbar discs, there have been a few patients who still complain of residual low back pain and occasional bouts of sciatica. However, in a series of some seventy-five cervical discs, there is yet to be seen a failure. There is, therefore, no hesitation in recommending the procedure of removal of a protruded cervical disc which causes the well known brachial neuralgia and which has such a clear-cut clinical picture.

Lumbar neuralgias, which amount to, practically, sciatic pain, should be regarded first from an orthopedic standpoint. If the x-ray reveals no orthopedic deformity and no lumbar arthritis and if the pain is recurrent and intractable, usually worse on coughing or sneezing, then that patient should be suspected of harboring a protruded lumbar disc or a cauda equina tumor.

The syndrome of protruded lumbar disc is so well known that it should be only briefly described. The presence of severe, recurrent sciatic pain, made worse upon motion, coughing or sneezing, associated with a tender sciatic nerve and tenderness at the involved interspace; patches of hypoaesthesia of the involved dermatome;

and possible loss or diminution of the ankle jerk, make a diagnosis of a protruded lumbar disc mandatory.

The surgical treatment of a lumbar protruded disc has been so refined that it can now be done without hazard and with the expectation of a good result. That there are certain individuals whose lumbar spine should be fused following the removal of a protruded disc is well known. It is felt, however, that this is still debatable and that fusion should be restricted to those with obvious orthopedic deformity.

The conquest of *headache*, the recognition of its various types, and a specific therapy directed at each type constitute a tremendous problem, particularly to those in general practice. If we exclude the various, easily recognizable types of headache, such as those from a sinusitis and those due to chronic eye strain and astigmatism, or those due to febrile illnesses and other systemic diseases, we are left still with a large and baffling group of headaches.

Migraine, or ophthalmic migraine, is usually considered to arise in a young individual, usually a woman, preceded by an aura in which she can tell she is about to have a headache, usually associated with a great deal of nervous stress and tension. It may be accompanied by flashing scotomata or a feeling of fogging of the vision and may be associated with vomiting, or at least nausea. There is a certain amount of photophobia present in true migraine and the pain is confined usually to one side of the head. It is familial and usually becomes less severe with advancing age, so that at the time of the menopause migraine should have regressed to the point of no complaints.

The treatment of migraine is very difficult and is not without its failures. It is known that it is a vascular-type of headache and that it is propagated along sympathetic fibers accompanying the various cerebral and extracerebral vessels. Dilatation of the cerebral vessels causes the pain. Attention is therefore directed to the mechanism which might cause constriction of the cerebral vessels. This has been for years ergotamine tartrate. There has recently been placed on the market a new ergotamine preparation called dihydroxy ergotamine, which is a purified ergotamine principle, somewhat stronger in its action. The ergotamine can

be administered hypodermically, preceding the attack during the time of aura, in an attempt to abort the headache. The ergotamine can also be administered sublingually up to four milligrams with a weaker but still efficacious result. Treatment associated with this should be along these lines. The patient should be urged to abstain from coca-colas, chocolate, beans and other cholesterol rich foods. A mild sedative, such as a half grain of phenobarbital, should be given. Some authors have had success using calcium lactate, and others by using nicotinamide. It must be admitted, however, that there are many cases which will not respond to any of this therapy.

There is another clinical syndrome which, for lack of a better name, has been called *temporal vascular headache*. A series of some 100 of these cases has been reported which contrasted the medical treatment with the surgical treatment. These headaches are confused, of course, with migraine. They are usually unilateral; there is some photophobia and irritation of the eye; the temporal artery is tender and the occipital nerve may be also. Injection about the temporal artery or the occipital nerve with novocaine will relieve the headache. The temporal arteries and occipital nerves have therefore been sectioned. A most gratifying response was observed in that eighty-nine of the 100 cases were relieved of their headache over a period of two years.

Histamine headache is a paroxysmal, unilateral type of headache which usually comes on in the middle of the night and awakens the patient. It is associated with reddening of the conjunctiva and tearing of that eye. This is a classical description of histamine headache and if such a description is given, one can be fairly sure of the diagnosis. The treatment is that of desensitization with histamine as described below.

A syndrome known as *occipital neuritis* is fairly common. It is caused by an arthritis or peri-arthritis of the upper cervical spine so that it impinges upon the greater occipital nerves. This causes a suboccipital type of headache which radiates up to the vertex of the skull. The occipital nerves are tender and injection of them with novocaine will relieve the headache. X-ray therapy directed to the upper cervical spine will give some

relief. If x-ray does not give relief, section of the occipital nerves, which is not a disabling procedure, will give permanent relief.

The diagnosis of *Meniere's disease*, or chronic labyrinthitis, is easily made once it is differentiated from the symptoms caused by an acoustic neurinoma. Meniere's disease is characterized by recurrent, paroxysmal attacks of dizziness associated with tinnitus and loss of hearing on one side. During an attack the patient usually vomits. The vertigo suffered by the patient is extreme and the objects in the room seem to rotate about the patient. During the attack there is a marked nystagmus with the quick component to the affected side. An acoustic neurinoma can be readily excluded from the diagnosis by the presence or absence of the corneal reflex on that side. As the acoustic neurinoma expands it compresses the descending spinal tract of the trigeminal nerve and therefore causes an obliteration of the corneal reflex on that side. This is the first neurologic sign, after nerve deafness, portrayed by an acoustic neurinoma. If this sign is absent, and if there is no evidence of increased intracranial pressure, and if the story is that of paroxysmal, recurrent attacks of vertigo, tinnitus and vomiting associated with nystagmus and loss of hearing on that side, then a diagnosis of Meniere's disease is obvious.

The treatment of Meniere's disease has been difficult but some success has been obtained by desensitizing the patient to histamine. This can be done by repeated intradermal desensitization, gradually increasing the dosage, or by intravenous desensitization using 2.75 milligrams of histamine phosphate dissolved in 250 cc. of normal saline solution given slowly every other day for four or five doses. This is also the treatment of choice for relief of histamine headache.

There are some cases of Meniere's disease, however, which are intractable and resistant to treatment and the patient is incapacitated and economically worthless. If these patients in addition have a marked loss of hearing on that side, then surgical treatment of the Meniere's disease is indicated and it usually gives a splendid result. Intracranial section of the acoustic nerve is

not a hazardous undertaking and does not entail long hospitalization.

It has long been a source of wonder that the number of *spinal cord tumors* in Alabama seems to be less than elsewhere. It is known, of course, that a spinal cord tumor is relatively rare and that we see about one for every six brain tumors. However, even that low average has been exceeded here. It is concluded, therefore, that there must be numerous paralyzed individuals who have been diagnosed as having had strokes, syphilis, arthritis and various other chronic ailments when, in reality, they have a spinal cord tumor.

The diagnosis of spinal cord tumor is fairly obvious. Any weakening of an extremity which is progressive and which is associated with anesthesia and which may or may not be associated with pain should be regarded as a spinal cord tumor. Increased reflexes are usually seen in such a condition, but the main symptomatology, and that which is diagnostic, is a progressive, gradual onset of weakness of either the lower or upper extremities associated with anesthesia of those extremities. In addition, the bladder becomes involuntary and there are numerous other changes. If, however, *any gradual onset of paralysis* would be considered suspicious of a new growth in the spine or brain, these hitherto overlooked spinal cord tumors will be discovered.

The surgical treatment of a spinal cord tumor gives one of the most brilliant results in the whole field of neurosurgery. Most of the tumors of the spine are benign and can be removed with comparative ease. The operation carries very little mortality and the results are sparkling in their brilliance.

Sympathectomy constitutes a valuable weapon in the neurosurgeon's armamentarium. It is used for the treatment of various vasospastic diseases of the extremities and has been used for relief of hypertension of certain types. There is a great deal of controversy in this matter, but an essential hypertension which can be reduced, by the use of sodium amytal, to normal limits, and wherein there is no great myocardial or kidney or cerebral vascular change, falls into a group of favorable candidates. If such a favorable candidate is submitted to a sympathectomy, of an extensive enough type, that patient can expect to derive benefit

and his blood pressure can be returned to normal in seventy per cent of the cases.

The surgical procedure of *prefrontal lobotomy* for the relief of various mental diseases has been greatly exploited and over-emphasized in the national press. It is felt, however, that there are certain mental disorders which can be alleviated to a marked degree by the fairly safe procedure of prefrontal lobotomy. That this is a panacea for all mental disorders, however, is far from the truth.

In conclusion, there has been an attempt to recapitulate various phases of neurosurgery which might be of value to the general practitioner. Much has been omitted and little attention has been given to detail. It is nevertheless hoped this outline may be of some service.

Over-All Health Program—It cannot be too strongly emphasized that the general practitioners of the country have a far greater opportunity and responsibility in the over-all health program than have either the health officers or the specialists. It is of little use to educate the public to see a doctor at the first sign of cancer or tuberculosis or heart disease if the physician who is consulted—and most often he is the family doctor—dismisses the patient with a superficial examination and a prescription for a "tonic." The wonder-working prophylactic and therapeutic measures which are being developed so rapidly now cannot save a patient's life unless his doctor has kept up with medical progress so that he knows when and how to use them. Only by constant study and real devotion to his calling can the general practitioner discharge his obligation to his patients and live up to his opportunity in the over-all health program.

Last December I learned with a thrill of pride that a poll taken among the class which graduated from the Bowman Gray School of Medicine in 1947 showed that more than two-thirds of its forty-eight members planned to become family doctors. I was particularly interested to learn from the editor of the yearbook that many of those who expected to specialize, or were still undecided, said that they did not feel they were good enough to undertake the job of a general practitioner. These young men realized that it would require constant application to be able to give their patients the benefit of the progress that medicine is constantly making.

All members of the medical profession—specialists, health officers, and general practitioners—are playing on the same team, and the more closely we cooperate, the more readily we can attain "the ultimate goal of optimum health for the individual and the community."—Johnson, *Texas State J. Med.*, July '48.

VAGINAL HYSTERECTOMY

JAMES S. DuBOIS, M. D.

Enterprise, Ala.

A generation ago many hysterectomies were done vaginally, but as the safety of general abdominal surgery increased the vaginal route was used less frequently. Today, in some active clinics, the operation is carried out so infrequently that there has resulted a deficiency of training of residents and interns in this important part of pelvic surgery. Consequently, many women have been deprived of a method of surgery which may have been best adapted to the correction of their maladies.

Babcock points out that, although it has never been used widely in this country, it has been enthusiastically praised by the small group who has employed it extensively. Although used by us over a relatively short period of time, the application and results of vaginal hysterectomy have left with us such an impression that we feel justified in reviewing its advantages and indications in a general way.

As every one knows, gynecology plays no small part in the total field of abdominal surgery, and because of this the general surgeon is called on to perform hysterectomy many times. We feel that mastery of a technique for total removal of the uterus by both the vaginal and abdominal routes should be a minimum standard of operative skill that every general surgeon as well as gynecologist should exact of himself.

It is not wise to advocate that all hysterectomies be done vaginally, but it seems clear to us that the operation has a definite value and that at least some cases can better be managed vaginally than by laparotomy.

When it is necessary or advisable to remove the uterus, three operations are available: complete vaginal, complete abdominal, and supravaginal or supracervical. In this period of refined surgical technique, it can be said without fear of serious criticism that complete hysterectomy, whether by vaginal or abdominal approach, should always be the operation of choice. Supracervical hysterectomy may become an operation of necessity, but never should it be elective.

Failure to remove the cervix at hysterectomy is poor surgery, we believe, because approximately 4% of cases of carcinoma of the cervix develop in those cervixes left behind at subtotal hysterectomy. Averett has made the statement that about 20% of nulliparous women who had subtotal hysterectomies performed developed cervical stump cancer later. In former years, when fear of cervical cancer was the only argument by the advocates of complete abdominal hysterectomy, the proponents of supracervical hysterectomy held a sound position in that they felt the incidence of stump carcinoma did not compensate for the increased operative mortality of complete abdominal hysterectomy. Fortunately, today, that position is no longer tenable for it is the experience of most surgeons that in comparable cases complete hysterectomy, while admittedly slightly more difficult, has a lower mortality and morbidity rate and presents fewer complications than does supracervical hysterectomy. These results are due to the fact that the infected or potentially infected cervix is removed. Certainly, one does not see a persistent leukorrhea and low grade pelvic cellulitis as often after complete as in supracervical hysterectomy.

Many authorities can be quoted endorsing complete hysterectomy. However, one will find the occasional surgeon who opposes it as a matter of choice. In the main, however, their objections are that it is a more difficult and time-consuming procedure and that injury to the bladder and ureters is more frequent; also, that the incidence of stump cancer is overemphasized. An improvement in surgical technique obviates these first objections. The real crux of the question, however, is the danger of cancer of the remaining stump. If that 4% of women developing cervical cancer can be spared by the employment of the complete technique, this alone, we feel, is justification. What practical difference does it make whether statistics show an incidence of four or ten per cent? The thing to remember is that the cervix is one of the most frequent sites of cancer in the body and that in spite of advanced knowledge as to the treatment,

Read before the Southeastern Division of the Association, Enterprise, March 25, 1948.

From the Gibson Clinic.

either by x-ray or extensive dissection, it is still one of the most frequent causes of death in women past the age of 45 years. In addition, we do not at present have at our disposal any measure that will prevent cancer short of removing the uterus. The only safe cervix is one that is outside the body and since we cannot tell which cervix will develop cancer the statement holds for healthy as well as diseased cervixes.

Assuming then that a complete hysterectomy is more advantageous than a supra-cervical one, two routes remain for its removal, namely, transabdominal and vaginal. In a statistical study of 6,000 vaginal hysterectomies done by Heanie, Babcock, Kennedy and Averett, a maximum mortality of $\frac{1}{4}\%$ was reported. In this study, a variety of indications was present and each operator used a different technique. This margin of safety is probably greater than in any other major surgical procedure. Morbidity likewise has been considerably lower than that experienced in the abdominal approach.

With this evidence of such a low mortality and morbidity rate, from the standpoint of safety alone vaginal hysterectomy has proven its superiority. Shock practically never occurs. Bleeding is usually minimal, for not only are the uterine arteries ligated early in the procedure but, with the use of obstetrical pituitrin injected into the parametria, oozing is minimal. Peritoneal viscera are not traumatized, and injury to the bladder, ureters or rectum is rare.

There are additional factors other than that of safety, however, which make the operation a more desirable method. The absence of an abdominal incision with the resulting scar is of some advantage not only cosmetically but in that incisional hernia does not occur, and complications, such as adhesions of the omentum and intestines, and infection and separation of the incision, are eliminated. That postoperative complication for which every surgeon is on the lookout today, namely, phlebothrombosis, is notably less when hysterectomy is accomplished by the vaginal rather than the abdominal route. Early ambulation by the patient is permitted much more readily. The majority of coincidental lesions involving the uterine adnexae may be dealt with at the same time, and occasionally a low lying appendix can be removed. The cervix is always removed and usually without

peritoneal contamination. The advantage of this feature has been discussed previously. The procedure can and often is performed along with perineorrhaphy and repair of a cystocele or a rectocele without greatly increasing the time of the operation or increasing the strain on the patient. Extreme muscular relaxation is not necessary and because of this the anesthesia risk is considerably less.

When it is necessary to combine a plastic procedure with the removal of the uterus, the vaginal approach to the problem offers many advantages over the usual combined vaginal and abdominal approach. There is no reason to complicate a single and rational approach to a pelvic surgical problem by an added operation. The time consumed in changing over from a plastic to an abdominal procedure with the closing of the incision adds from 30 to 45 minutes to the operation. In addition to this added time, there is the resulting confusion which may cause a break in the technique and thus endanger the patient. When the vaginal approach alone is used, the operation moves smoothly to its conclusion without changing the position of the patient or the operator and without the confusion of redraping the patient. The operation is more economical both to the patient and to the hospital for postoperative hospital days are usually fewer, hospital supplies required are less and usually there is no necessity for expensive medication. Special nursing care is rarely necessary and today this factor is of paramount importance.

As in abdominal hysterectomy, the field of operation can be extended if necessary. If it is found impractical to continue by the vaginal route because of technical difficulties, the operation can be completed by the abdominal one. All patients should be routinely prepared for both the abdominal and vaginal approach for often the decision as to the route is not made until the final examination while the patient is under the anesthetic.

Fibroid tumors of the uterus still remain the most frequent indication for hysterectomy. The day has passed when x-ray and radium are used for this neoplasm. Within limitations as to the size of the tumor and the presence of inflammatory complications, vaginal hysterectomy is the operation of choice. Fairly large tumors can be removed

safely and bloodlessly by morcellation. As one's experience with this procedure grows, tumors up to the size of a 4 months' pregnancy can be removed via this route.

In the treatment of uterine prolapse, vaginal hysterectomy finds a place of real usefulness. In the majority of clinics in this country, prolapse is managed either by removal of the uterus with interposition of the broad ligaments or by some form of the Manchester procedure. Except in young women, the removal of the uterus is our preference and our short experience with this procedure has been a very satisfactory one. In most of these patients the uterus has no further function and the fact that it is normal is of little value. The cervix is usually not normal, being lengthened, thickened and often presenting an endocervical infection. In the Manchester procedure the cervix is usually removed. However, all too often infection is present so far up in the cervical canal that even a high amputation does not eradicate it. Technically, the operation of vaginal hysterectomy is certainly no more difficult, if as difficult, than a high cervical amputation, and with the uterus out of the way we feel that the pelvic floor can be reconstructed in a sounder manner. Enterocoele, which is so often present along with prolapse, can easily be corrected when vaginal hysterectomy is elected because of the ease with which the uterosacral ligaments can be drawn together, thus obliterating the herniation. Women beyond the period of child bearing, with symptom-producing retrodisplacements, can be treated more effectively by removal of the uterus through the vaginal route than by any one of the various retrodisplacement operations. By so doing not only are they relieved of their symptoms but they are also relieved of an organ which, beyond its period of usefulness, is only a potential source of danger.

Non-malignant bleeding in women near or at the menopause, whether caused by hyperplasia or fibrosis, is best treated by vaginal hysterectomy, for x-ray treatment of this type, usually in the early 40's, frequently causes a stormy menopause notably difficult to treat. The preservation of the ovaries permits the menopause to come much more gradually and the woman is far more comfortable than when the ovarian function is suddenly interrupted.

Extensively lacerated, ulcerated or infected cervixes in a woman near the menopause offer another indication for this procedure,

although here, due to the known effectiveness of the cautery properly applied, we realize that infection can usually be controlled. Certain it is though that once such a cervix is removed the danger of carcinoma of that appendage is over.

We feel definitely that in any patient at or near the menopause requiring vaginal plastic work that for prophylactic reasons, if for no other, the uterus should be removed and, since it adds very little time to the procedure and often facilitates the repair work necessary, it should be done. In the young woman we do not believe that the uterus should be sacrificed and in this type of case we prefer the vaginal plastic, with shortening of the cardinal ligaments and, in addition, a Baldy-Webster type of suspension. Sterilization may or may not be done as the occasion demands.

Approach from below is contraindicated by a number of conditions. When residua of pelvic inflammatory disease are extensive, the procedure had best be performed abdominally, for adhesions found in these cases can render the vaginal operation difficult and hazardous. Generally speaking, previous pelvic surgery, because of adhesions, is a contraindication. Cases in which endometriosis is suspected had better be approached from above. Small ovarian cysts frequently may be punctured or removed from below with no difficulty but the uncertainty as to the exact character of the cyst before the abdomen is opened makes it wiser to treat the larger ones by abdominal incision. Carcinoma of the fundus had best be approached from above for there is definite danger of lymphatic spread via the broad ligaments before such can be clamped, when approached from below. A common criticism of the operation is that it shortens the vagina. Except in those cases of extreme prolapse we believe this is negligible and certainly is no more so than that which occurs in complete abdominal hysterectomy.

In conclusion, may we emphasize that the purpose of this paper has not been that of condemning abdominal hysterectomy but rather to emphasize the value of the vaginal method of approach. Neither are we advocates of the wholesale removal of uteri. The criteria by which any operative procedure should be judged are safety, effectiveness and comfort to the patient. With this in mind, it is our opinion that vaginal hysterectomy, when indicated, fulfills these requirements.

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THE PRESIDENT'S PARAGRAPH

In electing one of the rapidly disappearing country doctors as President of the Association, you have given me a great honor that I deeply appreciate. I feel that you have also honored the many country doctors and general practitioners of Alabama who are loyal and active members of our Association.

That we have many problems to face and solve in the coming years is appreciated by all of us. Though the public recognizes and accepts as inevitable changes in other lines of business, it is slow to recognize and accept the drastic changes that have come lately in the character of medical practice, nursing and hospital care. "The man of the street is disturbed; there is considerable resentment that the old time family doctor is not found when needed." The public is finding it harder and harder to secure prompt medical care, and at what they consider a reasonable cost. The murmuring demand that something be done about it is swelling. People, generally, feel that they are not getting the medical care they want and have a right to expect.

We have all done a lot of confused thinking and planning in our attempts to evolve a method of better and more adequate medical care. People read and know much these

days about progress in medical science, and they want and expect their doctor to be skilled in all the latest methods. Yet, as private citizens, especially in rural areas, they have not gone one step beyond the horse and buggy days to make it possible for our doctors, dentists and nurses to give the latest type of medical care, with all its scientific advances, to all the people. One of the least developed ideas is that of community responsibility to furnish the facilities needed to practice present-day medicine.

In talking with local and national groups, I am impressed with the desire on the part of the public for the professions to take the initiative and furnish leadership and advice in plans looking towards some method of securing more doctors, dentists and nurses, and more hospitals, especially in rural areas. We are making some progress in this direction through our Committee on Medical Service and Public Relations and the Alabama Health and Medical Care Council but doctors are, as a rule, conservative and are not anxious to strike out into untried fields.

Professional groups, hospital management and medical schools are no longer able to build and maintain facilities needed today to provide the type of medical care demanded by the public. To procure more doctors, nurses, dentists and hospitals needed in our rural and urban areas, it becomes necessary to resort to appropriations by state and local governing bodies. I believe it is very necessary that we take an active part in such plans, striving to obtain these things without lowering the quality of services rendered.

It appears to me that the time has arrived when we should meet with interested representatives from farm, labor and industrial groups and the Legislature to discuss with them the above situation. Among other things we should attempt to find out if the public is willing to pay the price in additional taxation to get more doctors, dentists and nurses, and extra hospital facilities.

If we want these advantages bad enough, and are willing to pay for them, we can have the best medical care in the nation.

To many lay professional people who have given much thought and study to the broad subject of extending better medical care to all our people, the following suggestions seem worthy of careful consideration and

offer a plan in which all interested groups could cooperate.

1. A program should be developed for building and maintaining clinics and hospitals in areas of need, with as much local participation as possible, aided by state and federal funds.

2. Prepayment insurance should be made available as rapidly as possible to all citizens, with careful consideration given to an extension to include clients of county departments of public welfare and to low income groups, this latter type of insurance to be financed by local and state funds.

3. If prepayment insurance cannot be worked out for the clients of the departments of public welfare and for low income groups, then some method of per diem care, financed by local and state funds, should be devised so that the facilities of our Medical College and hospitals may be at their disposal.

4. We need more doctors, dentists and nurses in Alabama. The building up of our Medical School, with dental and nursing departments, should be encouraged and supported by the medical profession and all other interested groups in the state. Scholarships should be made available on a state-wide basis, and should be awarded by a state committee only to those students who show need of assistance. It is realized that for the attainment of this goal a vastly larger appropriation than that now in effect will have to be made.

5. An active and cooperative nurse recruitment program should be conducted by all professional groups. Consultation and study of some method of developing an associate, to assist our registered nurses, should be carefully investigated.

6. Consideration should be given to establishing a Negro Medical School in Alabama, if other plans for medical education of Negroes fail.

7. The Alabama Health and Medical Care Council should be used to secure the cooperation of industry, allied professions, labor and farm groups in a state-wide plan for additional medical services. Its executive committee should be enlarged to include representatives from farm, labor and industrial groups and our Medical College.

J. Paul Jones, M. D.

THE ALABAMA CANCER BULLETIN

Recently every physician in the state was forwarded a series of bulletins on cancer with the compliments of the State Health Department. This compilation of cancer facts was originally prepared and published by the Committee on Cancer of the Illinois State Medical Society. This group was gracious enough to permit Alabama physicians the use of this material.

Cancer as a cause of death has been advancing year by year and last year in Alabama was in third place, with more than 2,300 deaths attributed to this cause. Early recognition might have prolonged the life of many of these 2,300, if they had consulted their physician early enough and if a diagnosis had been established at the time of first examination. The emphasis in this series of bulletins is on early diagnosis, and the diagnostic criteria are very well set out.

The Field Army of the American Cancer Society is doing a fine job in the education of the general public and is driving home the slogan of "see your doctor early." The medical profession must remain well in advance of the lay public and must be prepared to give an intelligent examination when consulted. The index of suspicion must always be high and if this cancer bulletin serves to raise that index in a few cases, it will have been worth while. We hope you will read every page.

PRIMARY CANCER OF THE LUNG

"Within the past few decades two well established and generally accepted concepts of primary cancer of the lung have been completely disproved. One is the concept that carcinoma of the lung represents the 'rarest form of the disease.' The other is the concept that pulmonary cancer is a hopeless condition. The present, completely anti-thetic concepts came about in the first instance through intensive and more accurate studies, which demonstrated that the lung is second in frequency only to the stomach as a primary site of malignant growth, and in the second instance through the pioneering achievement of Evarts Graham, who showed fourteen years ago that resection of a primary neoplasm is possible. This successful achievement contributed still further stimulation to studies on the incidence of the disease. In many respects these facts re-

flect the rapid progress which has been taken to place in this relatively short time in the field of thoracic surgery."

The above is the opening paragraph of the paper read before the Section on Surgery, General and Abdominal, at the 1947 session of the American Medical Association by Ochsner, DeBakey and Dixon.¹ The New Orleans investigators based their report on 412 patients with this disease observed over a period of twelve years. The youngest patient was 12 years of age, the oldest 81. "It has long been recognized that carcinoma of the lung is predominantly a disease of the male sex, an interesting but unexplained fact."

The authors go on to tell us that "because of the paucity of symptoms, particularly in the earlier stages, and the usually insidious onset, it is difficult to portray a characteristic clinical picture of carcinoma of the lung. These factors undoubtedly account for the frequent delay in diagnosis. In the present series of 147 cases of resection, the commonest symptoms were cough, loss of weight, pain or discomfort in the chest, a history of previous respiratory infection, hemoptysis and dyspnea in about that order of frequency. Not infrequently only one or two of these manifestations are present, and occasionally the patient has no symptoms, the diagnosis being made from a routine roentgenogram of the chest."

The Tulane surgeons tell us that "the treatment of primary cancers of the lung consists ideally of extirpation of the involved lung before the lesion has extended beyond the confines of the lung. Extirpation of the process offers the only cure. Whereas occasionally a patient may be benefited by irradiation, generally the results from this form of therapy are of little or no value. It may be used as a palliative procedure and may be of value in hopeless cases in alleviation of symptoms. Certainly, in view of our present knowledge, it is not justifiable to use roentgen therapy in early and operable lesions. Recently, the use of nitrogen mus-

... has been reported to be of possible value in alleviating symptoms in inoperable cases, but we have had little experience with its use."

We read that "bronchiogenic carcinoma is a common lesion and probably represents about 10 per cent of all carcinomas." And we are told that "the disease begins insidiously, and there is no characteristic clinical picture. The most important factor in making an early diagnosis is the assumption that an unexplained thoracic disorder in a man past 40 years of age is bronchiogenic carcinoma until proved otherwise."

It is stated that the surgical mortality has shown progressive improvement. And finally the authors tell us that "although the results following the surgical treatment of primary malignant neoplasms of the lung are not good at the present time, they are better than those obtained in the treatment of gastric carcinoma, even though this latter lesion has been known for some time and its frequency is generally appreciated by the members of the medical profession. When the physician becomes cognizant of the relative frequency of primary pulmonary malignant neoplasms and recognizes these cases earlier, much better results will be obtained. The fact that a better than 20 per cent five-year salvage rate can be obtained in cases of resection, in many of which only palliative resections are performed, indicates that the lesion is relatively slow-growing and that the ultimate outlook is not as pessimistic as it has been considered in the past."

Ochsner, DeBakey and Dixon have well dealt with a subject of increasing importance. Either this form of malignancy is increasing in frequency or, as others contend, it is being correctly diagnosed much more often than formerly. Quite likely both factors enter into the picture. But, in any case, it is obvious that practitioners must constantly bear in mind the possibility of primary cancer of the lung. And while at present we are much better at its diagnosis than in its treatment, the authors are certainly correct in stating that some progress in treatment is being made, and that even more will probably be made in the near future.

1. Ochsner, Alton; DeBakey, Michael, and Dixon, J. Leonard: Primary Cancer of the Lung. Selected Writings by Staff Members of the Ochsner Clinic, VI: 38 (Dec. 31) 1947.

This was the Chairman's address read before the Section on Surgery, General and Abdominal, June 11, 1947 at the meeting of the American Medical Association at Atlantic City, N. J.

VACCINATION AGAINST POLIOMYELITIS

One of the most successful vaccination trials in monkeys against poliomyelitis yet engaged in has been reported by Dr. Isabel M. Morgan, assistant professor of epidemiology, the Johns Hopkins University.

She revealed to the First International Poliomyelitis Conference, assembled in the Waldorf-Astoria Hotel on July 16, that she and her associates have vaccinated monkeys successfully with a killed virus of a type which eventually might be used for humans.

In June 1947, Dr. Morgan and her colleagues at the University's Poliomyelitis Research Center were able to induce complete immunity in a high percentage of Rhesus monkeys by injecting them intramuscularly with a live virus. While this vaccine was an effective laboratory tool to determine the mechanics of polio immunity, it is too dangerous for human use.

During the past year, they made tests with the same polio virus strain which had been made non-infective by use of formalin. When these vaccinated animals were injected subsequently with lethal doses of virus, Dr. Morgan reported, the majority withstood this crucial challenge without developing paralysis.

Two strains of polio virus which have been identified in the past ten years were used in the Johns Hopkins experiments. One is known as the Lansing strain and has been adapted for the most extensive laboratory research in monkeys, cotton rats and mice. The other, known as the Brunhilde strain, is particularly virulent in terms of infection as well as severity of paralysis.

Dr. Morgan's studies were aimed to determine the mechanics of immunity in polio which differs from other diseases. Generally, polio antibodies circulating in the blood do not produce consistent immunity. However, Dr. Morgan determined that an overproduction of such antibodies by means of proper vaccination will cause antibodies to "spill over" into the central nervous system, thereby affording solid protection against polio.

First, they vaccinated the monkeys and then exposed them to infection with the same strain of virus. The monkeys withstood the disease and were found to have an abnormally large number of circulating antibodies. A number of the successfully

vaccinated animals were sacrificed and tests revealed antibodies present in the central nervous system. Moreover, Dr. Morgan reported, no pathological injuries typical of polio were found in these critical areas.

Dr. Morgan disclosed also that she and her associates have initiated experiments to produce a vaccine against all the important strains of polio.

"It has been possible by vaccination with two strains of poliomyelitis virus inactivated by formalin to render the majority of monkeys immune" to massive, lethal intracerebral injection of one virus or the other, she reported. The immunity, she noted, did not prevent paralysis when both strains were injected, "although the proportion succumbing may not be as great as that in normal animals so injected."

"On the basis of these data," she added, "second attacks (of polio) reported in man would be interpreted as due to two immunologically unrelated strains of virus."

In another study, the Johns Hopkins researchers used chimpanzees to determine the level of antibody necessary for protection, but were limited because of the prohibitive costs of the animals. They found that, like human beings, the chimps could become virus carriers. They reported that when the animals were fed virus preparations, they developed antibodies of a low titer. This resembled the human case in which the person is a polio carrier for weeks without the appearance of characteristic disease symptoms. Although Dr. Morgan concluded that these persons would be considered immune to the virus, the effectiveness of neutralizing antibodies in their blood is not high enough to be considered protective. Also, she decided, circulating antibodies are evidently not the sole criterion of immunity.

NAVY'S NEW MEDICAL TRAINING PROGRAM

The Surgeon General of the Navy has announced the expansion of the Bureau's professional training program for reserves and regular medical officers, which is similar to the recently expanded Army medical training program. The object is to permit more Navy doctors to meet the requirements for certification by the various American Specialty Boards, and to encourage the young doctor to intern under the auspices of the

Navy. The following are the important points in this program:

Graduates of Class A medical schools who have been accepted for internship by a hospital approved for such training by the Council on Medical Education and Hospitals of the American Medical Association may be commissioned as lieutenants (junior grade), MC, USNR, and permitted to continue their intern training. They will receive all the pay and allowance of the rank while so serving. After completing their internships, the medical officers must remain on active duty for a period of one year. If they meet the professional, physical and moral requirements, they will be given every encouragement to transfer to the regular Navy.

Interns who have completed the one year of obligated service, and who have transferred to the regular Navy, may be considered for residency training on a competitive basis with other officer personnel of the regular Medical Corps.

Resident physicians now in civilian hospitals, or those accepted for approved residency training, are eligible for commissions in the regular Navy. Those so commissioned will be assigned to duty, with full pay and allowances, in the hospital in which they are already a resident, or in which they have been accepted for residency training. Every attempt will be made to permit residents holding commissions in the regular Navy to complete their training in event of an emergency.

The Navy has at the present time 400 approved residencies and fellowships in the various specialties recognized by the American Specialty Boards in Naval and civilian hospitals. This educational training involving the 400 residencies is divided into 2 programs.

Program A: One hundred of the above-mentioned residencies, courses, and fellowships will be made available for civilian physicians accepting a commission in the U. S. Navy. An additional 100 civilian physicians will be commissioned in the U. S. Navy and permitted to pursue their own course, fellowship or residency, provided it is approved by the Council on Medical Education and Hospitals of the American Medical Association with concurrence of the Specialty Board. Upon acceptance of the

designated training, they will be required to agree to remain in the Navy for a certain obligated time.

If on original appointment a candidate has not been approved for more than one year of training, during his first year of residency training (Program A) he may compete for one of the 300 residencies (Program B) available to the regular Naval medical officers, and if he obtains such training he will obligate himself to remain on active duty for an additional period depending upon the amount of time spent in training.

Program B: Three hundred residencies, fellowships or courses, will be reserved for continuing the training program as presently organized for regular medical officers.

The obligated service following graduate medical training (courses, fellowships and residencies) in Naval hospitals is one year for each year of training received.

Information concerning any part of the program may be obtained by writing to the Chief of the Bureau of Medicine and Surgery, Navy Department, Washington 25, D. C.

AMERICAN CONGRESS OF PHYSICAL MEDICINE

The American Congress of Physical Medicine will hold its twenty-sixth annual scientific and clinical session Sept. 7, 8, 9, 10 and 11 inclusive, at the Hotel Statler, Washington, D. C. Scientific and clinical sessions will be given the days of Sept. 7, 8, 9, 10 and 11. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, the annual instruction courses will be held Sept. 7, 8, 9 and 10. These courses will be offered in two groups. One set of ten lectures will be based primarily on physics and physiology and attendance will be limited to physicians. One set of ten lectures will be more general in character and will be open to physicians as well as to physical therapists. The physical therapists must be registered with the American Registry of Physical Therapy Technicians. Full information may be obtained by writing to the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

AMERICAN COLLEGE OF PHYSICIANS

The American College of Physicians will conduct its 30th annual session at New York, N. Y., March 28 through April 1, 1949. Dr. Franklin M. Hanger, Jr., of New York City is the chairman for local arrangements and the program of clinics and panel discussions. The President of the College, Dr. Walter W. Palmer, Director of The Public Health Research Institute of the City of New York, Inc., and Professor Emeritus, Columbia University College of Physicians and Surgeons, is in charge of the program of morning lectures and afternoon general sessions.

The College announces also that a limited number of Fellowships in Medicine will be available from July 1, 1949 - June 30, 1950. These Fellowships are designed to provide an opportunity for research training either in the basic medical sciences or in the application of these sciences to clinical investigation. They are for the benefit of physicians who are in the early stages of their preparation for a teaching and investigative career in internal medicine. Assurance must be

provided that the applicant will be acceptable in the laboratory or clinic of his choice and that he will be provided with the facilities necessary for the proper pursuit of his work. The stipend will be from \$2,200 to \$3,200.

Application forms will be supplied on request to The American College of Physicians, 4200 Pine Street, Philadelphia 4, Pa., and must be submitted in duplicate not later than November 1, 1948. Announcement of the awards will be made as promptly as is possible.

CENTRAL ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

The Sixteenth Annual Meeting of the Central Association of Obstetricians and Gynecologists is to take place in Denver, Colorado on September 23, 24 and 25, 1948.

The Shirley-Savoy Hotel is the convention headquarters and the Executive Committee will meet there on Wednesday September 22 just preceding the annual meeting.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

D. G. Gill, M. D.

State Health Officer

THE FATHER OF ALABAMA'S DEPARTMENT OF HEALTH

One of the featured speakers at the 1948 meeting in Mobile of the Medical Association of the State of Alabama was Dr. Andrew C. Ivy, of Chicago. He is vice president of the Chicago Professional Colleges of the University of Illinois.

Dr. Ivy's address was the latest in a long and distinguished series, for it was the 1948 Jerome Cochran Lecture. For many years distinguished medical men delivering these lectures have given Alabama doctors the benefit of the latest discoveries in their fields at the annual meetings of the state's official medical organization. There is no doubt that they have added substantially to the professional effectiveness of Alabama's doctors. This added scientific and professional knowledge in turn has unquestionably

done much to improve the health of Alabama's people.

While it is considered an honor to be invited to deliver the Jerome Cochran lectures, the purpose in establishing them was to do honor to a great Alabamian. Anyone who knows much about the career and qualities of Alabama's first State Health Officer know that this honor is properly bestowed. There are none to say he does not deserve it fully.

Literalists may object to our reference to Dr. Cochran as a great Alabamian. Their objection would be based, not upon the adjective but upon the noun. And there would be some ground for it. For he was not an Alabamian, if you limit Alabamians to those born in this state. But few people indeed have done more to bring credit upon it. Rare indeed is, or has been, one who has contributed more to its people's well-being. So Alabamians generally would be glad to know that he was born here, if that were true. Since it is not true, they are glad and

proud to claim him as a notable adopted son.

Dr. Cochran was born in Fayette County, Mississippi. His birthplace was the small town of Moscow. His birthdate was December 4, 1831. That lacked just a few months of being exactly three decades before Fort Sumter witnessed the opening shots of the War Between the States.

While still quite a youngster, Jerome Cochran, then having little idea that he would ever be known as Dr. Cochran, moved with his parents to another part of Mississippi, in Marshall County. Eager and ambitious as he was, he was plagued with ill health. Much of the time he was actually sick. Although the exact nature of his illness, or illnesses, is not known, it seems reasonable to assume that he was suffering from one or more of the numerous communicable diseases that afflicted most of the people of Alabama and the South at that time.

Getting an education was a much tougher job in those days than it is now. It was particularly tough when one had to divide one's time between working and learning. And that is what young Jerome Cochran had to do. In that day of no tractors and none of the other mechanical inventions which are taken for granted by present-day farmers, he found his chores making heavy demands upon his time. But he was determined to get an education at all costs. So the old-fashioned "field school" that he attended as much as he could became both a tool of knowledge and an inspiration to go on and on. Later he managed to touch another vital source of intellectual prowess, one that was virtually the making of such men as Abraham Lincoln, James A. Garfield and many other famous Americans. I refer to well-planned reading. He was also fortunate enough to have the advantage of private study. In that way he soon won an impressive mastery of such fields as political economy, logic, the world's great literature, theology, metaphysics, mathematics and modern languages. The eagerness with which he availed himself of the opportunities that came to him moved a later-day Alabamian to pay tribute to his "appetite for knowledge." This "appetite for knowledge," said Dr. Barclay Wallace Toole, of Talladega, "was insatiable." Moreover, according to Dr. Toole, who served as presi-

dent of the Medical Association of the State of Alabama in 1897, his "faculty for acquisition was phenomenal."

The future State Health Officer changed roles at the age of 19. From student he turned into a teacher. And a teacher he remained for about six years. In 1855 he became a student again by entering the Botanic Medical College, in Memphis, a well-known institution of the time. What a future physician needed to know—or at least what he was taught—was a great deal less than now, and he was graduated after two years. That was in 1857.

With his medical diploma, he returned to his native Mississippi. There he began the practice that was to bring him a measure of fame and make the people of two states his debtors. After two years, however, he saw the need for more education. So he entered the Medical Department of the University of Nashville. At almost the same time he was named resident student at the Hospital of the State of Tennessee. Then, in February 1861, he received the degree of Doctor of Medicine. That was just a few weeks before a telegram was sent from Montgomery that led to the outbreak of the War Between the States.

Among the first to offer his professional skill to the young nation, he was made a member of the medical staff of the 3,000-bed hospital at Okalona. He had not been at that post of service long when he was called upon to help treat those wounded at the Battle of Shiloh. In the early months of 1862 he was promoted. That made him a full surgeon.

After the war's end, Dr. Cochran went to Mobile. There he began, or rather resumed, the civilian practice of medicine. He apparently was entirely among strangers. At least he had no close friends in the Alabama port city. Moreover, it is certain that he was as completely without money as he was without friends. It is also a matter of record that he had by no means thrown off the bad health that had plagued him in his youth. But he had lots of courage and hope. And gradually more and more of Mobile's sick and injured made their way to the office near which hung a crude black wooden sign reading "Jerome Cochran, M. D."

He became an author along with his medical practice. *The Mobile Register* began

publishing articles under his by-line. These were devoted to a number of medical subjects, but most of them had to do with the origin and prevention of endemic and epidemic diseases. They began having their effect too. For soon the Mobile municipal authorities adopted a health ordinance that he is said to have written. It provided for the establishment of a city health officer and also for the organization of a board of health. This board, to be named by the Mobile County Medical Society, assumed responsibility for the maintenance of proper sanitary conditions in all parts of the city. One of its first acts was to make him city health officer.

It is regrettable to have to say that his tenure in that post was not a happy one. Politics came into conflict with wise health measures. And politics won. He was relieved of his official responsibilities in 1873. However, his political antagonists' triumph was brief. For he had hardly turned his responsibilities over to his successor when Mobile was visited by a violent outbreak of smallpox and yellow fever. Swallowing their pride, they invited him to take the helm again. The measures which he instituted were highly successful. Dr. Toole called their results "a sanitary triumph without a parallel in the world's history." That is certainly a strong and sweeping statement. But it appears to have been none too strong and none too sweeping. Nor was a later statement of Dr. Toole's that "from this time on Dr. Cochran's fame as a health officer was established."

The soundness of that fame was soon demonstrated, for Dr. Cochran was appointed a member of the National Yellow Fever Commission. The appointment was made by the Surgeon General of the Marine Hospital Service, now the U. S. Public Health Service. In that new and more responsible post he also did notable work. Indeed other members of the commission called it almost superhuman.

For some time Dr. Cochran's fertile brain had been busy on a plan that had fired him with the zeal of an evangelist. With memories of his bitter experience with political interference, he dreamed of a state public health organization that would be far beyond the prejudices and caprices of politics. The set-up that he envisaged would be re-

sponsible only to the state's organized medical profession. Under such an arrangement, he was sure, the people of Alabama would benefit richly from that profession's accumulated store of scientific medical knowledge.

That dream emerged from the silent stage at the 1872 meeting of the Medical Association of the State of Alabama. In an address at that time, he said:

"I would have a general health law passed by the Legislature of the state, carefully prepared so as not to stand in need of frequent revision or amendment. I would have this law to invest the Medical Association of the State of Alabama with the functions, powers and responsibilities of a State Board of Health, and these functions I would have exercised through such organs as the Association, in its wisdom, might think best. I would have the same act of the Legislature to invest each County Medical Society with the functions of a County Board of Health, said functions to be exercised through such organs as the said county societies should, in their wisdom, determine to be best."

Such revolutionary changes usually come about slowly. And that was true of this one. But on February 19, 1875, the Alabama General Assembly passed a law giving solid substance to the Cochran dream. It designated the Medical Association of the State of Alabama as the Board of Health of the State of Alabama. It also designated the county medical societies affiliated with the State Medical Association as the boards of health for those counties. In time the Association adopted an ordinance "creating a State Health Officer for the State of Alabama." It was only a natural consequence that Dr. Cochran was named to that post. That was on April 11, 1879.

At the 1896 meeting of the Medical Association of the State of Alabama a friend of Dr. Cochran became disturbed over his appearance. There were evidences of accelerating feebleness. There were also other indications that he was not enjoying even the niggardly measure of good health that had been vouchsafed him most of his life. When it was suggested that he do something about his condition, he replied that his case was not one that would respond to drugs. Acting on that belief, he declined all offers of med-

ical aid. And on August 17 (1896) the end came.

At the Association's annual meeting two years later—in 1898—the late Dr. Luther Hill suggested that some scheme of permanently honoring Dr. Cochran should be undertaken. The suggestion was made in the course of Dr. Hill's address as president and included a recommendation that this take the form of an annual lecture. It was warmly received and quickly acted upon.

So it was that Alabama doctors last April heard a distinguished professional brother tell them about the latest developments in an important field of medical science. So it is that future generations of Alabama health guardians will hear a succession of such lectures as long as Alabama medical traditions are not changed. So it is that Dr. Cochran will go on making better and better doctors to bring better and better health to the people of Alabama.

But he is helping them in other ways too. For the public health organization he set up, imperfect as any human organization inevitably is, is bringing them better health much more directly. And the men and women who man its battle stations are determined that it will bring them even more generous measures of good health in the future than they have enjoyed in the past.

BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

	April	May	E. E.* May
Typhoid	5	8	9
Typhus	9	18	28
Malaria	42	47	209
Smallpox	0	0	2
Measles	247	281	806
Scarlet fever	25	27	34
Whooping cough	163	191	220
Diphtheria	18	24	16
Influenza	416	72	180
Mumps	97	145	192
Poliomyelitis	3	4	2
Encephalitis	0	2	1
Chickenpox	133	174	104
Tetanus	4	5	3
Tuberculosis	238	285	287
Pellagra	0	0	7
Meningitis	9	11	10
Pneumonia	318	142	287
Syphilis	2218	2297	1762
Chancroid	18	23	11
Gonorrhea	441	607	522
Tularemia	1	5	1
Undulant fever	5	6	7
Amebic dysentery	5	1	0
Cancer	253	364	0
Rabies—Human cases	1	0	0
Positive animal heads	33	46	0

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

Provisional Birth and Death Statistics, March 1948
and Comparative Rates

Live Births, Stillbirths, and Deaths by Cause	Number Registered During March 1948			Rate* (Annual Basis)		
	Total	White	Colored	1948	1947	1946
Total live births	6888	**	**	26.7	28.9	22.9
Total stillbirths	246	**	**	34.5	38.8	24.9
Deaths (stillbirths excluded)	2440	1397	1043	9.5	9.3	8.4
Infant deaths:						
under one year	295	160	135	42.8	39.8	40.3
under one month	193	111	82	28.0	20.3	23.0
Causes of Death						
Typhoid and paratyphoid fever 1, 2						1.2
Cerebrospinal meningitis 6	4	3	1	1.6	1.2	1.6
Whooping cough 9	9	6	3	3.5	6.6	0.4
Diphtheria 10	2	1	1	0.8	1.9	0.8
Tuberculosis, all forms 13-22	76	32	44	29.5	40.0	40.0
Malaria 28	1		1	0.4		1.2
Syphilis 30	29	5	24	11.2	11.2	11.0
Influenza 33	40	16	24	15.5	23.7	23.9
Measles 35	2	2		0.8	0.8	1.6
Poliomyelitis 36	4	3	1	1.6		0.4
Typhus fever 39					0.4	1.2
Cancer, all forms 45-55	231	172	59	89.6	78.4	67.5
Rheumatic fever 58	7	3	4	2.7	***	***
Diabetes mellitus 61	29	21	8	11.2	12.0	12.9
Pellagra 69	8	5	3	3.1	3.5	3.9
Alcoholism 77	2	1	1	0.8		1.6
Intracranial lesions 83	246	140	106	95.5	99.7	80.4
Other diseases of nervous system 80-82, 84-89	20	12	8	7.8	***	***
Diseases of the heart 90-95	613	388	225	237.9	199.1	176.5
Diseases of the arteries 96-99	17	10	7	6.6	10.9	9.4
Other diseases of circulatory system 100-103	11	2	9	4.3	***	***
Bronchitis 106	9	6	3	3.5	3.9	1.6
Pneumonia, all forms 107-109	154	84	70	59.8	63.6	57.6
Diarrhea and enteritis, under 2 years 119	6	4	2	2.3	5.4	3.5
Diarrhea and enteritis, 2 years and over 120					1.6	0.4
Appendicitis 121	4	2	2	1.6	4.3	2.4
Hernia and intestinal obstruction 122	14	11	3	5.4	8.1	3.5
Cirrhosis of the liver 124	12	7	5	4.7	4.3	3.9
Nephritis, all forms 130-132	184	91	93	71.4	66.7	65.5
Other diseases of the genito-urinary system 133-139	27	14	13	10.5	***	***
Diseases of pregnancy and childbirth 140-150	13	3	10	18.2	17.0	33.5
Puerperal septicemia 140, 142a, 147	3		3	4.2	2.6	6.7
Congenital malformations 157	24	22	2	3.5	***	***
Suicide 163, 164	13	13		5.0	5.4	8.6
Homicide 165-168	45	6	39	17.5	8.9	9.4
Accidental deaths 169-195	163	110	53	63.2	66.7	66.7
Motor vehicle accidents 170	53	42	11	20.6	17.1	27.1
All other defined causes	242	152	90	93.9	125.7	113.0
Ill-defined and unknown causes 199, 200	179	50	129	69.5	71.4	61.6

*Birth and death rates per 1,000 population; infant death rate and congenital malformations per 1,000 live births; stillbirths per 1,000 total births (stillbirths included); specific causes per 100,000 population; puerperal causes per 10,000 total births. All rates are based upon the March report of the years specified.

** Not available.

***Included with "All other defined causes" in 1946 and 1947

BUREAU OF LABORATORIES

H. P. Sawyer, M. D., Director

SPECIMENS EXAMINED

MAY 1948

Examinations for diphtheria bacilli and Vincent's	233
Agglutination tests (typhoid, Brill's and undulant fever)	1,295
Typhoid cultures (blood, feces and urine)	615
Examinations for malaria	748
Examinations for intestinal parasites	4,531
Serologic tests for syphilis (blood and spinal fluid)	30,285
Darkfield examinations	19
Examinations for gonococci	2,821
Examinations for tubercle bacilli	2,717
Examinations for meningococci	2
Examinations for Negri bodies (microscopic)	111
Water examinations	1,290
Milk and dairy products examinations	3,330
Miscellaneous	547
Total	48,544

BUREAU OF SANITATION

Arthur N. Beck, M. S. in S. E., Director

THE SANITARY REQUIREMENTS FOR THE PROPER OPERATION OF MEAT MARKETS

Contributed by

**B. E. Phillips
Principal Sanitarian**

On a long-time basis, there is no phase of public health work that responds more readily to promotional activities on the part of public health personnel than does the sanitation of food-handling establishments. It appears to have been the practice of most food inspectors, and other personnel interested in the food sanitation program, to promote only the minimum requirements. The practice of minimizing requirements and insisting that we shall be satisfied if such requirements are complied with immediately has caused many food establishment operators to feel that the program has not been well thought out, that the requirements are inconsistent, and probably of little value; and that cheap, haphazard, temporary compliance will be sufficient to obtain a permit from the health department for beginning or continuing operations.

On one occasion a meat market operator who had experienced his first encounter with a food inspector was amazed at the ease with which he received a permit. This operator had opened a grocery and meat

market in a building formerly housing a clothing establishment. Within this building there were no plumbing fixtures other than a handwashing facility, and this with only a cold water connection. The market itself was located midway along one side of the building with a general assortment of merchandise, unrelated to meat market operations, piled on half broken down shelves and tables in the area back of the meat display case. The plastered walls were badly in need of repair. The ceiling was so constructed as to permit the entrance of attic dust, and the floor, covered with approximately two inches of sawdust, was of such material and in such a poor state of repair as to present a problem in sanitation itself.

Even though these conditions were obvious to those entering this store, be he a trained sanitarian or not, the operator was asked only to procure an electric hot plate for heating water and a pan for washing the market utensils and equipment in order that the health department might issue a permit for the operation of the establishment. This equipment was secured at a cost of less than eight dollars to the operator. It is felt that such minimizing of requirements is tremendously expensive to a sanitation program since everyone entering this store is a potential convert to sanitation; as is, most of all, the operator himself. Little, if anything, has been gained by requiring the purchase of a hot plate and pan. The condition as related above is not an isolated case. In fact such methods have been found to exist, more or less, in many sections.

It is recognized that a meat market does not have public health significance comparable to an eating establishment, and the market experience is used here as an example simply because it is easier to outline the requirements for a market than it is those pertaining to an eating establishment.

The sanitation officer, within the bounds of reason, should outline a program of sanitation for meat markets with an eye toward the esthetic angle, but with ample public health justification, that would require a much greater initial outlay of money to the operator, but in turn the cost would be more than offset by the convenience of operating in a sanitary manner. Another important consideration is the favorable reaction of po-

tential customers to clean and orderly surroundings.

Such a long time, complete, and well rounded program would embrace the following:

Location and arrangement: The market proper should be located along one side or across the back of the building and no merchandise except that directly related to market operations should be stored or handled in this area.

Floor: The floor throughout the area occupied by market operations should be smooth, without cracks or depressions, sloped to a drain, and the drain should be trapped and connected to an approved disposal system. The wall baseboard might be made an integral part of the floor. It appears that a floor of good quality concrete, trowel finished, with red metallic hardener is most practical in most sections; however, there are many other types of material that are suitable.

Walls: The walls should be whole and sound, without cracks or crevices, and of a material that is easily cleanable.

Ceiling: The ceiling should be whole and sound, completely excluding attic dust.

Toilet: If an approved type toilet facility is not conveniently accessible, such facilities should be installed on the premises.

Water heating facilities: Anyone can demonstrate that a hot plate is not practical for heating an ample supply of hot water to satisfy the needs of a market, and even though the regulations do not require hot water under pressure at markets it appears to be the only method of assuring ample hot water. The water heater should be capable of producing water at well above 170 degrees F., and it appears that 30 gallons of hot water are sufficient for most such establishments.

Wash sink: A wash sink of ample size to accommodate all market equipment ordinarily washed at a sink should be installed in the market area, and as an integral part of a metal top work table located on knee braces along the wall. The table should be of sufficient length to accommodate the grinder, slicer and cuber. A metal splash board should extend along the wall the entire length of the table. There should be a hose outlet on the hot water pipe at the sink to be used for flushing the floor, power saw, display case, and other equipment.

Handwashing facility: A handwashing facility should be located between the toilet and the market, convenient to the market, and even though hot water connection is not required it probably could be had with little encouragement after hot water under pressure is made available. Incidentally, all handwashing facilities should be equipped with a mixing valve.

This set-up embraces the important items of structure and equipment essential to an attractive, well-kept, and sanitary meat market, and the items involved have ample public health justification and are sufficiently well covered by the present state food regulations as to permit an inspector to hold such a program continuously before his operators, and, with a reasonable amount of salesmanship, obtain full compliance within a reasonable period of time.

It appears well worth while that a like program consisting of high standards and long-range plans be set up for all food-handling establishments. In setting up such a program it becomes necessary to grant approval for the temporary use of certain equipment and certain types of structures, all to be eliminated as rapidly as circumstances will permit. The hot plate and pan may have a place as a temporary emergency measure in an old establishment where the program is just getting underway, but it certainly has no place in the permanent set-up of a long-range program of high standards. The same thing may be said concerning all portions of the structure and all pieces of equipment.

At the outset of such a program it is necessary to make a detailed inspection of every establishment within a county, covering carefully every item, and recording all violations. There will be many items of structure and physical equipment marked for correction in this long-range program, but certain temporary emergency substitutions might be accepted until proper and permanent corrections can be had; however, items marked for correction at the time of the initial survey should continue to be marked on each succeeding inspection report until the desired correction is obtained.

A program of this kind is almost 100% promotional. When such high standards are held constantly before the operators it is indeed seldom that it becomes necessary to

resort to court action in order to get minimum compliance, and of course minimum compliance permits one to operate. Although inspections are made regularly, and files kept orderly and up to date, and though no known health menace is tolerated, these items are merely routine and secondary to the over-all long-range program.

In the counties where such long-range programs of high standards are in effect the respect of the operators and general public is fast making itself known. In at least one county this program has advanced to the point where operators claim that competition is forcing them to remodel in keeping

with high public health and esthetic standards as recommended by the health department. Progress in this county is retarded only by lack of health department personnel, who, in addition to routine duties, must lend close supervision to new construction or remodeling, and to the purchase and arrangement of equipment.

The continuation of such a program as that outlined here may be dependent to some extent upon the adoption in the near future of a proposed grading system. It is believed that this grading system would supply ample incentive for continuation.

BOOK ABSTRACTS AND REVIEWS

Neuroanatomy. By Fred A. Mettler, A. M., M. D., Ph. D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University, New York. Second edition. Cloth. Price, \$10.00. Pp. 536, with 357 illustrations, including 33 in color. St. Louis: The C. V. Mosby Company, 1948.

The teaching of neuroanatomy is not an easy process. It is dreaded by the medical student as one of the most difficult of understanding. This has in no way been helped by the text available to the student.

Since there is no panacea for easy instruction or easy learning, it was with delight that this clearly written, concise treatise on neuroanatomy was read. The author has gone into great detail, the nervous pathways are clearly demarcated, and his method of instruction seems solid and well grounded.

The usual textbook on neuroanatomy does not go into gross anatomy. It was noted with satisfaction that Dr. Mettler has given us an excellent description of gross anatomy of the brain.

The reviewer feels that this is an excellent book, well written and concise, and will be of inestimable value to the student and to the specialist in the field of neurology or psychiatry.

Walter G. Haynes, M. D.

Synopsis of Pediatrics. By John Zahorsky, A. B., M. D., F. A. C. P., Professor of Pediatrics and Director of the Department of Pediatrics, St. Louis University School of Medicine, and Pediatrician-in-Chief to the St. Mary's Group of Hospitals; Fellow of the American Academy of Pediatrics; and T. S. Zahorsky, B. S., M. D., Senior Instructor in Pediatrics, St. Louis University School of Medicine, and Assistant Pediatrician to the St. Mary's Group of Hospitals. Fifth edition. Cloth. Price, \$5.50. Pp. 449, with 158

text illustrations and 9 color plates. St. Louis: The C. V. Mosby Company, 1948.

The fifth edition of Zahorsky's *Synopsis of Pediatrics* is evidence that this small volume finds a place in the library of most physicians who deal with children. The book is a "synopsis" and forms a source for quick reference or a review of the field of pediatrics but in no way replaces the standard texts on pediatrics.

There are omissions, such as the use of BAL in the treatment of arsenic poisoning and of the great value of Darrow's work with potassium chloride in the treatment of the severe dysenteries seen all too often in the South. There are misnomers: thumb-sucking, anorexia, tics, fears and disorders of sleep are listed under the heading "Bad Habits"—which term hardly seems proper. There are questionable means of therapy such as the advisability of a purgative at the onset of diarrhea, the use of quinine as a method of treating whooping cough, and the use of mecholyl as a treatment of paroxysmal tachycardia without being coupled with a warning note and giving its antidote.

Considered as a whole, however, the "synopsis" is of value to the student, to the general practitioner who is busy and wishes a ready reference, and also to the pediatrician who, from time to time, wishes to review the field of pediatrics to obtain a little brain dusting and recall many syndromes and symptoms which he has forgotten.

W. A. Daniel, Jr., M. D.

Ulcer: Primary Cause, Diagnosis, Treatment, Prevention. By Donald Cook, B. A., M. D., Consultant in Gastrointestinal Diseases. Cloth. Price, \$5.00. Pp. 187, with 27 illustrations. Chicago: Medical Center Foundation and Fund, 1946.

The author has had considerable clinical and pathological experience with gastric and duod-

enal ulcer. A very complete review of ulcer is set forth in this book.

After consideration and discussion of all the theories and causes which have been advanced for gastric and duodenal ulcer, the author presents his own case for what he considers the primary cause of gastroduodenal ulceration in man. In short, this theory states that local ischemia, produced by pressure upon the ulcer area, is responsible for most of the ulcers in man. The reasons given for this belief are interesting and thought provoking. The discussion of both

the medical and surgical management of ulcer is thorough and logical.

The author discusses section of the vagus nerve, with the statement that it was attempted thirty years ago without success, and he dismissed it as being of only temporary benefit and an unwise procedure.

It would be well for both the internist and the surgeon to become acquainted with Dr. Cook's monograph.

Franklin Jackson, M. D.

AMERICAN MEDICAL ASSOCIATION NEWS

FIND HISTAMINE VALUABLE IN TREATING MIGRAINE HEADACHE

Histamine, a body tissue chemical thought to cause many allergic reactions, is valuable in preventing and treating migraine headache, report two physicians of the Mayo Clinic at Rochester, Minn.

Writing in the July 24, 1948 issue of The Journal of the American Medical Association, the physicians—Dorothy Macy, Jr., and Bayard T. Horton—describe a study of the use of histamine in treating migraine headache at the Mayo Clinic from 1937 to 1946.

Histamine, which has no narcotic effect, was given by injecting beneath the skin and by dripping into the veins. "The greatest improvements occurred among the patients receiving histamine by both routes," the article points out.

The physicians divided the 144 patients studied into typical and nontypical cases. Both kinds showed periodic headaches, but in addition the typical cases had at least two of the following symptoms while the nontypical cases had only one: (1) Upset stomach, (2) brain disturbance, and (3) a family history of migraine.

Headaches caused only by psychic factors and nervous tension were not considered migraine, although nervous tension is frequently one of the symptoms of the disease. True migraine, as regarded in the study, is a condition of constriction of the blood vessels followed by dilatation which often produces swelling.

Of the 144 patients 98 showed 25 to 100 per cent improvement. However, the treatment is not a cure, the physicians emphasize.

"The duration of freedom from migrainous attacks parallels rather exactly the duration of administration of adequate maintenance doses of histamine. Patients free of symptoms after one year or more were still taking histamine once daily or every other day."

GENERAL HEALTH HAS LITTLE EFFECT ON TOOTH DECAY

Observing that a group of Filipino children in poor general health had much better teeth than a group of local children in Hawaii in excellent health, Dr. Nils P. Larsen, Honolulu, says in a recent issue of The Journal of the American Medical Association that dietary factors are probably the determining element in freedom from tooth decay.

Dr. Larsen's paper, entitled "Tooth Decay in Relation to Diet and General Health," was based on extensive studies made of more than 1,000 children living on sugar plantations in Hawaii and 100 children who were brought in from the war-torn Philippines.

Although tooth decay in general is higher among children on a diet with a high carbohydrate content—that is, one of starches and sweets—Dr. Larsen emphasized that this is not always the case; that some children on such diets have very good teeth.

The reported observations in Hawaii suggest that other factors than the acid base balance or vitamin A may account for the striking difference in decay in the various groups of children observed.

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PSYCHOSOMATIC MEDICINE

HENRY B. GWYNN, M. D.

Mobile, Alabama

Since the time of Hippocrates, the practice of medicine has been regarded as the practice of an art combined with a science. This practice of the art of medicine, upon analysis, resolves itself into a knowledge of fundamental psychiatric principles and the employment of those principles in the treatment of patients, regardless of the nature of their specific disabilities. The outstanding example of the successful employment of the art of medicine, when knowledge of the science of medicine was quite limited, was the method of practice of the old time family physician. Living as a neighbor among his patients and being intimately acquainted with their backgrounds, and past and current problems—medical and non-medical, he used the available information in such a way that he compensated to a great extent for lack of scientific medical knowledge. In most instances, the patient was treated not only to the physician's satisfaction but also to that of the patient and the patient's family. This was no mean achievement. In fact, it was an achievement of such magnitude that the old time family physician has become a legend and has taken his place in literature and in drama.

At the conclusion of World War I, great strides began to be made in the field of medical science. From that time up to the present, a great number of new drugs, chemicals, serums and vaccines, together with new techniques of diagnosis and therapy, became available in the medical armamentarium. A

Read before the Association in annual session, Mobile, April 15, 1948.

practical result of this outpouring of scientific accomplishment was the inability of the average graduate of our medical schools to keep abreast of the latest developments in the various fields of medical practice, which was, in turn, largely responsible for the establishment and rapid growth of medical specialization. It has frequently been said that a specialist is one "who knows more and more about less and less," and it cannot be denied that very often the fields of specialization have become absurdly narrow.

While this development of specialization seems scientifically advisable within reasonable limits and should have raised the standards of medical practice, what has been the practical result of this trend in medical practice? In the first place, it has meant the loss, to a great extent, of the doctor-patient relationship which nearly everyone connected with medical practice believes to be of paramount importance, not only in establishing and maintaining the confidence of the patient in his physician but in accurately diagnosing and treating the patient's disability. Very often it has meant that patients, having no personal or family physician to advise them, in the belief that their symptoms indicate such a course, go directly to a specialist; who, although recognizing that the patient's symptoms are not directly related to his fundamental disability, subjects him to a thorough examination and perhaps treatment at great expense to the patient; and, at the conclusion, refers him to another specialist where the same cycle is repeated. Naturally, this can only engender resent-

ment and bitterness in the patient's mind, which is reflected not only towards the physicians immediately concerned but to the medical profession as a whole. Even in cases where the physician's attention and concern are directed to the treatment of the patient's disability, it is generally with complete disregard of the emotional, social, environmental, educational, vocational, and other factors which may have a prominent part in the production of the patient's disability. Very often the physician himself realizes that he has not "treated the patient as a whole," which is so often advised in medical textbooks, but rationalizes the situation by saying that he does not have the time to delve into these matters somewhat foreign to the patient's specific disability and that these are really in the province of other individuals or agencies.

This trend towards a mechanistic type of medical practice has attained alarming proportions as demonstrated by articles appearing in professional journals designed for the average medical practitioner. The suitability of articles for publication seems to be judged largely by the number of references attached to the article and a review of the titles is often proof in itself that the articles are not designed primarily for the information of the average medical practitioner but rather for research workers in some ivory-towered laboratory. The articles themselves seem largely devoid of literary quality and have attained a stereotyped monotony resembling anonymity except for the credit line. What a far cry from the writings of Osler and other great teachers of the past!

The profession has been concerned by the widespread increase in irregular practitioners and the growth of healing cults of various degrees of credibility. Despite excellent promotion, nothing achieves success unless it supplies a fundamental public need or desire. What have these practitioners or cults to offer? Analysis of them demonstrates either an emphasis on an overwhelming interest in the individual and or an emphasis on immediately carrying out some action reputedly for the patient's welfare. In other words, the focus of attention is on the patient as a person who needs help, instead of on some specific disability. How remote this is from "It's nothing; it's just your nerves," or "Time will heal it."

The public voice, often incited by professional agitators, is heard making two main charges against present medical practice: first, that uniform, high quality medical care is not available geographically; and, secondly, that a great proportion of our population is charged fees entirely out of proportion to ability to pay. It must be readily conceded that the number of certain types of medical specialists is nowhere near the needs of our population, as, for example, psychiatrists; and it must be further conceded that the available specialists are often not distributed according to geographic requirements. Some members of the profession, on their own initiative, have endeavored to meet this need by different types of group practices, which are designed to serve, in some instances, large geographic areas. Naturally, such investments are made only after consideration has been given to studies of population density in relation to geographical distances, which results in areas of low population density having such group centers at long distances from one another. The answer to this economic problem would not seem to be the regimentation of medical practitioners, which, in all probability, would further depress the number of available qualified practitioners, but rather by financial and professional inducements, sponsored by private groups, the state, or the federal government, to qualified groups in some areas. But above all is needed the streamlined family physician, or, more correctly titled, personal physician who understands the treatment of the patient as a whole, who is familiar with current diagnostic and therapeutic practices, and who knows when the services of what specialist (medical and non-medical) are indicated.

As to the matter of fees, examination of this question would lead one to believe that medicine can and should clean its own house. What are the fees that the public takes exception to? Fees for catastrophic illnesses, diagnostic fees, charges (rendered in good faith) for unnecessary care or for care that leads to no desirable results, as far as the patient is concerned, head the list. In the first instance, hospital insurance and experiments with insurance covering the medical costs of catastrophic illness seem to offer hope of solving this problem. As to diagnostic fees, clinics (in some areas subsidized,

at least to the extent of guaranteeing equipment and building loans) would seem to point the way to a successful adjustment of the matter. But when the question of fees for unnecessary care or for care that is unsatisfactory to the patient are concerned, we again must consider the art of medical practice. Of course, fees rendered in good faith are under discussion because there can be no argument that those not so rendered and those for legitimate care that are extortionate in view of the patient's income should result in severe disciplinary action by local medical societies, with publication of details in local medical journals for those judged guilty after fair trial by their confreres. Very often the cause of unnecessary medical care is the fact that the physician has not employed appropriate diagnostic aids, such as psychiatric consultation, psychological testing, social service aid, and vocation and educational testing. For example, all the treatment in the world will not cure the symptoms of the patient suffering from peptic ulcer precipitated by financial, marital, or social insecurity. Similarly, the patient who has had a severe injury to the ankle will not be satisfied with visits to a physician for inspection and bandaging when a friend similarly injured has enjoyed the benefits of physical therapy and occupational therapy methods.

These are the factors which are in large part responsible for the present loss of public confidence in the medical profession. These are problems which face medicine today, and which must be realistically faced and solved immediately if public confidence is again to be restored, and if it is hoped to prevent outside interference in medical practice.

Fortunately, there are solutions for a great many of the problems confronting organized medicine. The Armed Forces developed a pattern which can be of great help in extending more complete medical care to disabled individuals and which will aid in the streamlining of the family physician so that he can provide scientific medical care and at the same time employ the services of other individuals and agencies to humanize his relations with the patient to make his work more effective, mentally, physically and emotionally.

The Army found out that there were problems involving medical care which could not be solved by the conventional medical techniques and practices. For example, it was soon discovered that in the Army psychoneurotics could not be dismissed from the responsibility of the Medical Department by being merely passed from one medical officer to another, as so often happens in the civilian practice of medicine. The loss of man power through medical channels in the early days of the war had to be curtailed or the enormous Army would have dwindled away like sands through the hour glass. It was soon realized by all concerned that there was a deficiency in our conventional medical approach to certain problems, such as the care of a psychoneurotic. It was seen that a type of complete professional care which had been restricted to but a few in civilian life (chiefly psychotics) must be adapted and modified to meet the needs of the Army masses.

What was this type of care which had proved so efficacious? Upon analysis, it was very simple. It was the treatment of the individual patient as a whole. In other words, it was an analysis of the patient's requirements and limitations on physical, mental and emotional planes and the prescription of a coordinated therapeutic program based upon these requirements and limitations by the patient's physician who assumed the role of "family physician." This therapeutic program was called by the Army Service Forces the Convalescent Reconditioning Program, and by the Army Air Forces and Navy, Rehabilitation Programs.

For administrative purposes, broad therapeutic programs were set up for bed patients known as Class 4 patients, early ambulatory cases as Class 3, patients capable of moderate physical exertion, Class 2 and patients capable of more severe physical exertion as Class 1. The latter was composed largely of patients who would return to military duty. Patients were assigned to these classes by their ward physicians in accordance with individual requirements and limitations, and certain activities of the broad programs were either eliminated or supplemented according to the needs of the individual patients. Finally, patients were transferred from one class to another accord-

ing to the professional judgment of their ward officer.

The broad physical program differed for the various classes of patients only in the amount of physical exercise required. All patients, unless specifically eliminated, received general calisthenics, whether confined to bed or ambulant, according to physical limitations. Supplementing the general calisthenics program was a program of specific exercises known as remedial exercise for those patients with specific disabilities. All of these were coordinated with various physical medicine modalities prescribed by the ward officer of the individual patient. In addition to the usual physical medicine procedures, patients received prescribed occupational therapy, both of functional and diversional types.

The mental reconditioning program was originally predicated upon the assumption that the majority of men would be returned to military duty of general or limited duty type. As time went by, it became apparent that a large percentage of hospitalized Army patients would be discharged to civilian life, and, with the conclusion of the war, this trend became even more marked. This necessitated a change in the mental reconditioning program, which had largely been concerned with orientation of patients to military subjects and with physical and military training designed to facilitate his return to military duty, to the preparation of the patient for return to civilian life. This meant that orientation and information furnished patients by means of motion pictures, public address programs, lecturers, quizzes, and round table activities were changed to subjects of vital concern to the patient in reestablishing himself in his family life, in his economic life, and in aiding him to protect the peace he fought so hard to win, by informing him of his responsibilities and duties as a civilian citizen.

It was soon learned by the Army that the mental aspect of a patient's condition could never be separated from his symptoms, no matter how related they were to actual physical disability, and it was realized that the shortening of convalescence, the decrease of incidence of complications (such as psychoneuroses), and the lessening of hospital readmissions could only be accomplished by attacking this mental problem

which was so inextricably linked with the patient's prognosis. It was impossible, because of limited personnel, to give patients the benefit of individual psychiatric treatment by trained psychiatrists, as might have seemed the ideal method of approach. By experiment, it was discovered that a great many of the advantages and benefits of psychiatric treatment could be attained by other methods. These consisted, first, of an intimate personal relationship between the patient and his personal physician, who had, in many instances, received a brief, condensed course in psychiatric principles and management. Secondly, it was found that the use of trained psychologists and social workers could often give the patient an outlet for expression of mental problems and also serve as a method of mass screening to pick up cases which needed a more specialized type of psychiatric care. Supplementing the individual interviewing were lectures to large groups on psychology and psychiatric mechanisms which offered a rational explanation to the patient of his attitudes and demonstrated to him that his attitudes were not his alone but were mass attitudes, the result of exposure to extraordinary conditions. The analysis, explanation, and disposition of a patient's problems would often not entirely solve the patient's difficulties, so an effort was made to supplement this treatment by the fostering of new and more constructive attitudes through general orientation methods mentioned earlier, but more particularly by the analysis of an individual patient's intellectual qualifications, his past achievements, his hopes and aspirations, with the design of stimulating in those qualified the adoption of or the continuance of educational and vocational pursuits of a suitable nature. To further this program, patients who were concerned with economic problems coincident with discharge from the Army were given the opportunity often of consulting trained vocational counsellors, and scientific study was made of the patient's vocational background, his aptitudes and his inclinations. The patient was presented with the result of this study and was encouraged to choose a future vocation along scientific lines. This was not entirely a theoretical solution of a patient's vocational problems. In Convalescent Hospitals it was possible for the patient actually to be given

the opportunity to have pre-technical exploratory training in eight job families, such as radio, electricity, agriculture, automobiles, business education, the graphic arts, metal working and woodworking. This shop training served as a practical test of the vocational counselling received at the hospital, and also was especially helpful in developing the patient's confidence in himself. It might be found that the patient's laboratory work would not justify his continuance in a particular field and his case would be reevaluated by a vocational counsellor and efforts would then be made to place him more properly. This type of training was not considered vocational in nature but merely as a testing of the patient's vocational aptitudes, and served to stimulate him to take advantage of the provisions of the G. I. Bill of Rights upon discharge and to continue training in a field in which he was both interested and proficient. Coordinated with the entire program was a planned recreational program which served not only to divert the patient's mind from his disability but to occupy his leisure time in a happy and constructive manner. Sometimes, the lines of demarcation between the three main divisions of the reconditioning program—physical reconditioning, mental reconditioning and recreation—were rather rigidly drawn. When this occurred it was a violation of the fundamental concept of rehabilitation, the treatment of the patient as a whole, and there is no reason why the various divisions, necessary for administrative reasons, should not overlap because each should and does contain elements of the others.

It may well be asked what connection has this solution of a military medical problem with civilian practice of medicine. The answer is simply that the objective of both civilian and military medical practice is the same, that is, the return of a patient as rapidly as possible and as near normal as possible, mentally, physically, and emotionally, to his normal activities in either civilian or military life. It would certainly seem that a great many of the procedures and practices evolved during the development of the convalescent reconditioning and rehabilitation programs of the Armed Services could be modified in such a way as to be applicable to the civilian practice of medicine. In the

Army the role of the personal physician was assumed by a young medical officer with modern medical training, supplemented by special kinds of psychiatric instruction. It is realized that the average civilian physician is pressed for time and it is no more to be routinely expected that he should undertake vocational counselling as a part of the treatment of his patient than that he personally do a blood chemistry, but it is felt that the public is not unreasonable in looking to the medical practitioner to utilize and coordinate the services of all individuals and agencies which may be employed to promote and speed a patient's recovery. But recovery, it is emphasized, is not the completion of the acute phase of illness because that is not recovery in the patient's opinion, nor his family's nor the public's, who often has to pay the bill for unnecessarily long drawn out convalescence or for life long disability. It is the very exceptional physician who maintains interest in his patients up to the point of the patient's complete resocialization or is interested in administering to the needs of the long drawn out chronic type of disability case. This attitude of the profession is, to some extent at least, responsible for the number of individuals who lead a cheerless, restricted and hopeless type of existence in institutions with the depressing titles of "Hospital for Chronic Disease," or "Home for the Incurable."

From the Army's experience, it can be learned that in nearly every disabled human being, unless totally devoid of mental resources, there are potentialities for not only economic survival but for sociologic adjustment. The management of paraplegic cases in Army hospitals should serve not only as an example to civilian practitioners who have an occasional such case but to those physicians who have patients with cerebral accidents, spastic paralyses and a great many other types of long drawn out and disabling conditions, which are often abandoned as hopeless. For Army paraplegic cases, the combination of ward physician, orthopedic surgeon, neurosurgeon, genitourinary specialist, together with physical reconditioning personnel, mental reconditioning personnel, physical therapists, occupational therapists, clinical psychologists, educational and vocational counsellors, recreational aides, nurses, and ward employees

formed a team that could not be denied success in getting the patient out of bed, walking on braces, mentally stimulated because of educational opportunities, encouraged that life held a desirable future because of vocational training, and finally cheered by appropriate recreational features. The key figure, as quarterback of this team, was the ward physician, because upon his rapport with the patient depended the correct analysis of the patient's mental, physical, and emotional situation, and in the long run determined the efficiency of the measures prescribed by the ward physician for his recovery. In other words, the physician who is successful in this field is one who employs all the available measures and personnel which will contribute in a coordinated program to the patient's recovery.

How may this attitude of "treatment of the patient as a whole," be disseminated to medical practitioners? There are several ways. In the first place this concept of treatment must be ingrained in the student while in medical school. He must be taught that calling upon lay people, trained in non-medical but related scientific fields, to aid in the medical treatment of a patient is not extraordinary but is an important part of the art of medical practice. The idea that a patient's disability can be entirely evaluated in the micrograms of some substance in the spinal fluid must be recognized as a scientific and intellectual fallacy. The employment of science and art as a team for the welfare of the individual patient must be a fundamental doctrine of medical teaching. For those physicians who have graduated, postgraduate courses should emphasize this aspect of medical practice.

The Armed Services have already done a great deal in the way of informing the public of the benefits of convalescent rehabilitation and this public orientation should be continued under the auspices of the medical profession. The economic as well as the social need of such a program must be emphasized. Critics will say that the Army spent millions of dollars on rehabilitation and had the use of almost unlimited personnel, facilities and equipment, all of which is not applicable to civilian practice of medicine. This is partially true. Undoubtedly, the establishment of convalescent rehabilitation in civilian medical practice would be

expensive, but on the other hand when it is realized that the War Manpower Commission estimates there are 23,000,000 people in the United States who are in need of rehabilitation, part of whom have a restricted earning capacity because of disability and a large group of whom are recipients of public or private funds because of disability, it can be seen that the dividends to be derived from the rehabilitation of these individuals, plus the shortened convalescence, decreased incidence of complications, and lessened number of hospital readmissions of millions of individuals, will make the investment a most profitable one.

Rehabilitation should begin from the time a physician is called in the acute phase of illness because the first step in his care of a patient should be orientation of the patient concerning his illness, thus allaying the patient's and the family's anxiety concerning his illness. This is the first phase in mental rehabilitation. Naturally, the scope of both physical and mental rehabilitation activities of the patient confined to his own home will be limited, but the physician's instruction to the patient and the patient's family concerning the principles of rehabilitation will serve first to indoctrinate the patient in principles to which he must become adjusted, if later transferred to a hospital, or it will serve to speed his convalescence if he remains at home. For the home patient, the use of his hours awake should be as carefully planned by the physician in order that the patient's time may be employed in a healthful and constructive fashion as a pharmaceutical prescription for his specific illness. His time should be properly apportioned, according to the patient's needs, to permit physical exercise, reading, listening to the radio, home type occupational therapy and rest periods as deemed desirable by his physician. The physician, merely by quickly reviewing these activities, demonstrates to the patient and the patient's family his interest in the patient as an individual and not merely as a clinical specimen of a disease.

What can be done in the hospital to promote such a convalescent program? Hospitals already constructed can be renovated so that they will be suitable for the establishment of a rehabilitation program and new hospitals should be planned with facilities. A certain amount of equipment, such as

athletic supplies, motion picture projectors and public address systems, are needed to provide a suitable program. But, above all, it is imperative that properly trained personnel be employed as physical reconditioners, clinical psychologists, social service workers, occupational therapists, physical therapists, and recreational aides, in addition to the usual professional personnel.

To those who have had experience in the field of rehabilitation, it is always amazing when physicians appear skeptical about the results of such measures as described in the treatment of patients. Undoubtedly, convalescence has been the most neglected phase of medical care and has too often been interpreted solely as a type of rest. Studies have been made recently which indicate that rest as a part of the treatment of a patient may be abused, and in many cases causes deterioration. This deterioration may be expressed in terms of bone atrophy, muscular wasting, physiological dysfunctions, and, worst of all, in the development of emotional disturbance and anxieties. Naturally, in any well balanced rehabilitation program, ample provision is made for rest in accordance with the patient's requirements as determined by the physician. It seems astonishing that some physicians cannot readily see the benefits of a planned activity prescribed for patients in accordance with their needs. Too often in civilian hospitals the services (if available at all) of social service workers, clinical psychologists, and vocational and education counsellors are reserved for a small segment of the patient population, generally the charity cases. This is one example of the fact that wealth does not necessarily command the best in medical care.

When a certain point is reached in convalescence, the patient may be released from bed at home or permitted to leave the hospital, but often there is need of initiation or continuance of therapeutic measures such as those described above. In most communities, this is a difficult and expensive process for the patient and a source of annoyance for the physician. The obvious solution of this problem is the establishment of Civilian Rehabilitation Centers either independent or attached to hospitals as advocated by the Baruch Committee on Physical Medicine. Briefly, this plan en-

visages the establishment of centers which will permit ambulatory patients to attend as outpatients and which have a small number of infirmary beds for chronic types of patients, such as the paraplegic, postcerebral accident and spastic conditions which have progressed to a point not requiring constant specialized care. Naturally, these Rehabilitation Centers will be expensive to establish but, as pointed out before, there is reason to believe that their cost will save a great deal of money at present expended in custodial care, and at the same time will restore to the patient the dignity of a human being, which can be acquired only by a person who can function as an economic unit in the competitive society of his age. The establishment of such centers should be under medical auspices because this is a treatment program. However, if the medical profession does not accept the challenge and actively take a lead in the formation of such centers, there is reason to believe that public demand will cause their establishment without the aid of organized medicine.

The American public regards, as a right, the access to facilities and services which mean good health. It feels that leadership has been delegated to the American medical profession to determine what measures will best promote the health of American people. The public realizes that the Armed Services have explored this new field of convalescent rehabilitation, and in reports by the Secretary of War and Chief of Staff and the Surgeon General have been informed that convalescent rehabilitation is considered a therapeutic method of the utmost value. It would certainly seem foolhardy to ignore the pioneer work of the Armed Services which not only would seem to lead the way in providing more complete medical care for the American people but also in bringing about the renaissance of the general practitioner. In this scientific age of medicine the patient has been the "forgotten man." It is to be hoped that the physician will not be the forgotten man in future medical planning.

A rehabilitation program in a sanatorium is a plan of treatment to counteract the psychosomatic effects of the disease, tuberculosis. In such a program physical retraining, mental and social readjustment are essential and, as an adjuvant to these, vocational training is valuable. A. N. Aitken, M. D., *Am. Rev. Tuberc.*, Jan. 1947.

ADEQUATE CARE OF POLIOMYELITIS

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Any program endeavoring to care for acute anterior poliomyelitis and its after effects must be prepared to achieve two objectives:

1. Save life.
2. Restore maximum functional capacity.

However, before any program can be set up to achieve these two objectives, it is necessary to understand fully certain factors that determine the end results possible in any individual patient. The following four factors cannot be arranged in the order of their importance but perhaps can be arranged in the order in which they are met:

The first factor that determines the end result in any patient with acute anterior poliomyelitis is the site and extent of central nervous system damage. It should be obvious to all of us that, if the virus destroys all of the motor units in the central nervous system, the patient cannot possibly survive. It should be also clearly understood that, if a great portion of the motor units that supply the skeletal muscles are destroyed, no type or amount of treatment can possibly restore practical functional capacity to the patient. On the other hand, when only minimal involvement has taken place, there may be actually no clinical evidence of this damage. This factor is irreversible, although, as will be pointed out later, it may be definitely modified by certain aspects of acute care. With this factor in mind, it can be seen that any program caring for the after effects of poliomyelitis must be based on the premise that the extent to which a patient's functional capacity is ultimately restored is not dependent alone on the actual number of nerve cells destroyed during the acute stage of the disease but also on the effectiveness with which the remaining cells can be put to use.

The second factor that determines the end result in these patients is the caliber of available medical care during all phases of acute, convalescent, and chronic poliomye-

litis. If an early and accurate diagnosis is made and intelligent treatment instituted, the mortality rate can be greatly reduced and damage to the nerve cells modified. Skilled and experienced medical care and supervision during the convalescent phase of poliomyelitis can bring back to usefulness all of the remaining neuromuscular units and prevent or minimize the musculo-skeletal deformities that are so common in this phase. Skilled orthopedic surgery in the late convalescent phase and in the chronic phase of poliomyelitis can correct deformity, increase the patient's functional capacity and assure his future security. It is only logical to believe that, if the patient does not have a high caliber of medical care available to him during any or all of these phases, his ultimate functional capacity will be limited.

The third factor that determines the end result in many of these cases is the medical condition of the patient during the first three months of illness. Even though almost ideal convalescent care is available to a patient, his medical condition during the critical first three or four months after onset may be such that this convalescent care is contraindicated. A patient who must stay in a respirator for two or three months or even longer is a perfect example of the importance of this factor. Regardless of the availability of skilled medical personnel, this patient simply cannot be given the routines of a convalescent program if he must stay in a respirator. Because of the physical make-up of such a respirator, certain musculo-skeletal deformities must gradually occur and certain irreversible changes in the alinement of bodily segments will take place during these months.

The fourth factor that determines the end result is the intelligence and responsibility of the patient and/or his parents. There are far too few hospital units in this country or anywhere in the world to care for all the cases of poliomyelitis through all phases of the disease. Even if these beds were avail-

able to each patient, it would not be wise to keep these patients in a hospital for the time required for the over-all recovery period. At some time in the course of the disease, the child or adult must return to his home. In only rare cases will this patient return home without the necessity for some type of continued home treatment. This is particularly true of the child with acute anterior poliomyelitis. Even though only moderate involvement exists, it must be realized that there is danger of progressive musculo-skeletal deformities for many years. Scoliosis, which is one of the most dreaded of all musculo-skeletal deformities, might not be evident or progressive until the child reaches an age of rapid skeletal growth. All during these years, the patient and his parents must appreciate the need for modified physical activity and certain routines of home care.

With these factors in mind, an over-all program can then be set up to achieve the basic objectives stated above. It must be realized that the restoration of maximum functional capacity applies not only to return of individual muscle strength but to the coordination of this muscle action and the prevention of musculo-skeletal deformities, as well as the satisfactory adjustment of the patient to his physical handicap. This program obviously begins the first moment that a diagnosis of acute anterior poliomyelitis is made, progresses through all phases of the treatment program, and ends only when the patient can be returned to a normal environment with the assurance that everything humanly possible has been done to achieve the return of maximum functional capacity.

STEP 1

An early and accurate diagnosis of acute anterior poliomyelitis lowers the mortality rate by alerting the physician to watch for specific signs and symptoms of incipient emergencies that would endanger his patient's life. For practical purposes, the disease is divided into the bulbar and spinal type with the full realization that any combination of involvement within these two types is possible. The following is an outline of the more important diagnostic points, danger signs, and treatment guides, in, first, the bulbar, and then the spinal types of poliomyelitis:

BULBAR TYPE

Diagnosis of Bulbar Poliomyelitis

Acute onset of marked anxiety and restlessness with any combination of the following findings:

1. Weakness in muscles supplied by the cranial nerves: ophthalmoplegia, facial weakness, difficulty in swallowing, etc.
2. Disturbances in the automatic control of breathing: jerky, irregular respiration with variations in rate, depth, and rhythm.
3. Disturbances in cardiac function: very rapid pulse rate, varying blood pressures with decreasing pulse pressure.
4. May be accompanied by any combination of lower motor neuron involvement of spinal cord with or without characteristic spinal fluid changes.

Danger Signs in Bulbar Poliomyelitis

1. Difficulty in swallowing and/or regurgitation of food and fluids.
2. Harsh strident voice tone.
3. Irregular respiratory rhythm with increasing periods of apnea.
4. Varying blood pressures with low pulse pressure.
5. Increasing pulse rate.
6. Extreme anxiety, restlessness, and confusion.

Treatment

1. Constant observation.
2. Stop all food and fluid by mouth to prevent strangulation.
3. Do not give sedatives.
4. Adequate available oxygen is keynote of entire treatment program. Provide by:
 - a. Postural drainage and removal of accumulated saliva by suction to keep airway free if swallowing is difficult.
 - b. Oxygen through nasal tube if trachea is free of obstruction.
 - c. Tracheotomy at earliest sign of tracheal obstruction.
 - d. Humidified oxygen under pressure through tracheotomy if necessary.
 - e. Mechanical respirator should be used only with failure of respiratory center (increasing periods of apnea) increasing weakness in muscles of inspiration, but trachea and pharynx must be free of obstruction. (Tracheotomy and/or intubation may be necessary.)
 - f. Stimulants may be of value in cardiac and/or circulatory failure.

SPINAL TYPE

*Diagnosis of**Spinal Poliomyelitis*

1. Acute onset of a spotty segmental weakness ranging from slight paresis to complete flaccid paralysis.

2. With or without previous non-specific prodrome of one to ten days duration.

3. No gross sensory changes. Minor and transient paresthasias may be noted in the early stages.

4. Altered deep tendon reflexes in involved segments. These reflexes may be briefly exaggerated, may tire quickly, may be depressed, or may be completely absent.

5. Characteristic but non-specific spinal fluid findings. These findings may not be present in the very early stages. Moderate increase cell count (50 to 250). Moderate increase total protein (50 to 150 mgm.%).

6. May be accompanied by any combination and degree of motor involvement in medulla and mid brain.

*Danger Signs in**Spinal Poliomyelitis*

1. Respiratory failure due to weakness in primary muscles of inspiration (diaphragm and/or intercostals):

a. Inability to count to fifteen without taking second breath.

b. Gradually increasing respiratory rate depth, but with constant regular rhythm.

c. Use of accessory respiratory muscles (sternocleidomastoid muscles) to assist inspiration during periods of minimal activity.

d. Unequal (asymmetrical) chest expansion. Incomplete or absent "peeling away" of diaphragm.

e. Anxiety, restlessness, and confusion indicate cerebral hypoxia.

2. Strangulation may occur with difficulty in swallowing due to:

a. Retraction of head by painful "spasm" in posterior cervical muscles.

b. Difficulty in coughing because of weakness in diaphragm and/or abdominals.

3. Severe lower motor neuron damage is indicated by:

a. Early complete flaccidity of entire bodily segment (i. e. shoulder-arm, forearm-hand, trunk, thigh-hip, leg-foot).

b. Persistent strong and usually painful contraction of muscle groups. This is particularly significant:

(1) When opposing groups are in "spasm."

(2) When "spasm" is followed by flaccidity.

Treatment

1. Complete rest is keynote of treatment in acute stage of spinal poliomyelitis. Complete rest is only possible through measures designed to relieve pain and minimize apprehension.

2. Sedatives (barbiturates) may be used but only when there is absolutely no evidence of bulbar involvement.

3. The comfort of the patient determines position of the involved segments. (A firm, not hard, bed with pillows and sand bags should be used for positioning.)

4. Competent nursing (private if possible) helps to reassure and quiet patient.

5. Warm, moist fomentations should be used but only over painful muscle groups. Complete hot packing of the patient is rarely necessary and may be dangerous.

6. Warm, moist fomentations, sedatives, massage and passive motion relieve post-cervical "spasm" and assist swallowing.

STEP 2

The second step in our treatment program is the attempt to prepare the patient for resumption of activity. In a great majority of cases, this will mean, first, a preparation for long and tedious weeks of muscle reeducation. It is at this point that a program of convalescent care really begins. The three major points in the preparation of any patient for resumption of activity are:

1. Relieve pain.

2. Release any tightness in muscle and joint.

3. Support any bodily segment that is weakened. It should be readily appreciated that coordinated action of muscle groups acting on any bodily segment is impossible if motion of that segment is limited by pain or by limitation of joint motion. Until this is done we can never fully regain the maximum use of existing myoneural units in any bodily segment. The relief of pain and the release of tightness are accomplished by time, plus the use of intelligently prescribed sedatives, heat and passive motion. As in the use of all therapeutic agents, the type and frequency of the application of heat and motion depend on the reaction of the patient. There is no magical formula to achieve this end by any phase of physical medicine ex-

cept through the intelligence and responsibility of the attending medical personnel. It is equally important in this step that we begin our endeavor to prevent musculoskeletal deformities. Deformities, except for atrophy and weakness following actual denervation, have just one cause: persistent faulty alinement of bodily segments which results in distortion of bones and joints, and fibrous contractures of muscular and ligamentive tissue. In this early convalescent stage of poliomyelitis, such malalinement results from persistent faulty posture in bed, caused by such factors as pain, muscle weakness, faulty beds, or the weight of bed clothes on weakened extremities. Therefore, it is of importance not only to preserve normal bodily mechanics and alinement by the early restoration of mobility in muscle and joint as mentioned above but also to prevent this persistent faulty posture by the most effective method possible. An effective support is not only one which holds the segments in proper position but also one which in no way interferes with the other components of early care. It should be quite evident that the type of support will depend on the quality of available medical supervision. Assuming adequate medical supervision is not available, a bivalved plaster cast may be more effective than pillows or sand bags. Under intelligent supervision, an orthopedic bed, foot board, properly placed pillows, and possibly a light plastic wrist and thumb splint are all the actual equipment needed to prevent deformities at this time.

STEP 3

The third step is to coordinate and strengthen the existing neuromuscular units. Certainly this step is the most important and probably the most difficult one in the entire program. It is in this step that we have made our greatest strides in the treatment of poliomyelitis during the past ten years—not because any outstanding discoveries have been made in functional anatomy or bodily mechanics but primarily because physical medicine has been given an opportunity to use its skill on bodily segments properly prepared for muscle re-education. It is obvious that the success of this step is absolutely dependent on the thoroughness with which the painless and complete mobility of the segment has been restored. It is a continued source of amaze-

ment and gratification to see the extent of functional capacity that can be developed by patients with very little muscle power but highly developed coordination. It must be stressed that coordination and power are not the same. Power without coordination may be disastrous to the patient recovering from poliomyelitis because experience has taught us that all muscles in the involved segments do not recover with the same speed. If, as each of these individual muscles come under voluntary control, no attempt is made to coordinate their use, faulty habit patterns of motion will be built up by the patient with the use of these stronger and more easily available groups to the total exclusion of the weaker and thus less available groups. The development of a truly high degree of coordination in the patient with moderate to severe involvement demands the attention of a highly skilled physical therapist. No athlete ever needed a coach as badly as these patients need a physical therapist.

STEP 4

The fourth step is to increase the actual functional activity of the patient. By the time this step is reached, we should be able to determine, with a fair degree of accuracy, the extent of further improvement that is possible in the individual patient. Certainly, it will be known by then whether a patient will be able to return to a normal environment and carry on normal activities with normal patterns of motion. It will also be fairly obvious at this time whether it will be necessary to add some type of supportive or assistive apparatus to maintain this activity when the patient returns home. It is during this step that specific functional tests are given the patients to determine their ability to carry out certain activities that are required of them in a normal environment. When existing muscle strength and coordination permits, all of these activities are carried out in a normal manner. If it is obvious that the damage to the motor system of the central nervous system is such that normal patterns of motion can never be achieved, then the patient is given the necessary apparatus to support the activity and taught the most effective ways of using this apparatus. If necessary, specially designed assistive types of apparatus are made for the individual patient. It might be perfectly possible for one patient to achieve normal

activity without any type of brace, crutch, or corset, whatsoever. Another patient might be able to achieve the same activity but only by using a long leg walking brace. Another patient, however, might be so severely involved that walking will never be safe nor practical, and that actually teaching him to care for his own personal needs through the use of specially made splints or feeders will be his maximum functional capacity.

STEP 5

The fifth step is the attempt to evaluate a patient, not only in terms of what he can do at the present but whether further treatment is necessary to increase his functional capacity and to assure his future security. At this point the patient might be allowed to return home to carry out a program of modified activity, or he might be referred to an orthopedic surgeon for advice regarding the possibility of certain orthopedic procedures to increase his functional capacity and security.

STEP 6

The sixth step is usually the return to a normal environment. Before this step is actually made, both the patient and his parents should be fully acquainted with the patient's entire problem and the possibility of any change in his status in the future. In a great majority of patients treatment at home must be continued for many months, interspersed with repeated medical examinations to determine the need for additional treatment, either as a means of increasing the patient's functional capacity or perhaps minimizing certain deformities that seem to be occurring.

Thus, a patient, from the sixth block of a normal environment, might return to the fifth block of evaluation, and then be sent back into the treatment program, either for increased coordination and strength of muscle effort or for some phase of increased functional activity; or perhaps at this time he will be referred directly to the orthopedist for certain orthopedic procedures.

STEP 7

The seventh step is that of orthopedic surgery at which time the surgeon endeavors to determine whether certain procedures can increase the patient's ability to function

with either greater effectiveness or endurance, but more particularly to determine whether the patient's increasing growth, height, weight, and activity can be supported on weakened segments without damage to them. In a great many instances, before any consideration can be given to increased functional capacity and security, the orthopedic surgeon must correct deformities that have occurred during the convalescent period. It is obvious that the results obtained by the orthopedic surgeon depend on the thoroughness of the conservative care during the period of convalescence. Certainly, if fairly normal skeletal alignment and joint mobility have been preserved, the surgeon can do his work more efficiently.

SUMMARY

Adequate care of the patient with poliomyelitis requires a logical program to achieve the obvious objectives of first saving the patient's life, and then restoring maximum functional capacity. The first objective can be achieved only by early accurate diagnosis, recognition of danger signs, and treatment. The second objective can only be achieved through the thorough understanding of all of the factors that determine the ultimate functional capacity regained by the patient.

Prevention of Caries—No matter how much or what kind of brushing is done, it is not possible for the bristles to reach and clean the proximal surfaces between the teeth. It is simply imagination to think otherwise. At the contact point the teeth are in direct contact and there is no space between them. For a variable distance extending outward from the contact plane in all directions there is a gradually widening space which is filled with a pack of bacteria, mostly long rod and filamentous type. This material has the form of a somewhat irregularly outlined biconcave disc with the center corresponding to the contact point. When heavily inoculated food material is lodged upon the outer part of this biconcave disc where there are large numbers of growing ends and fruiting heads of the rods and filaments of which it is composed, acids may be produced there and may be carried, as if by a sponge or wick, deeper into the space. If the acid production continues long enough, ultimately there is partial decalcification—early stage caries—and later perhaps breaking down, cavity formation—advanced stage caries. In order to prevent surely these events it is absolutely necessary to clean the proximal surfaces of the teeth in this area every night before retiring. When done right this removes most of the bacteria and the food material in which they could grow.—Bass, *New Orleans M. & S. J.*, Aug. '48.

HYPERINSULINISM AND ISLET CELL TUMORS

WITH REPORT OF CASE

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The relationship of certain islet cell tumors of the pancreas to hyperinsulinism and hypoglycemia is now well recognized and interest in this particular field has been demonstrated by the increasing number of cases reported in the literature of the last few years. The first islet cell tumor was reported in 1902 by Nicholls, who found a simple adenoma of the pancreas arising from the islands of Langerhans. The first case showing true evidence of hypoglycemia and hyperinsulinism was reported by Wilder and his associates. In 1929 Howland and his associates reported the first successful surgical removal of an islet cell tumor in a patient with typical signs of hyperinsulinism and hypoglycemia. Whipple, in a recent review, was able to report 149 islet cell tumors showing hypoglycemia. Some were found by surgeons, the rest by pathologists. Of these, 106 were considered benign, 28 questionably malignant and 15 definitely malignant with metastasis to the liver.

SYMPTOMATOLOGY AND DIAGNOSIS

Functioning islet cell tumors, regardless of size, produce varying degrees of insulin shock. The severity of symptoms varies from such extremes as a relatively mild series of disturbances of relatively brief duration to a profound shock which may terminate in death if proper treatment is not instituted in time. In general, the symptoms are characterized predominantly by attacks of nervous system disturbances occurring during periods of fasting or after physical exertion. Wilder has classified the nervous symptoms under three groups: (1) disturbance of the sympathetic nervous system with dizziness, nausea, pallor and sweating; (2) disturbance of the central nervous system, such as convulsions with tonic and

clonic contractions of the extremities; (3) psychic disturbances, with anorexia, manic seizures, mental confusion and coma. These attacks frequently occur during periods of fasting or over-fatigue, at which time the blood sugar levels are low. There is usually a rapid relief of symptoms by the injection of carbohydrates either by mouth or parenterally. Perhaps the earliest symptom is an attack of weakness and mental confusion occurring several hours after a meal. With this attack of weakness there may be a coarse tremor and a cold sweat. With few exceptions, the attacks occur only after a period of several hours has elapsed since eating, and thus they commonly are observed early in the morning as the patient awakes. If the patient is undergoing exercise, the interval since eating may be greatly shortened, since increased metabolic demands will accentuate the development of hypoglycemia.

The diagnosis is confirmed by laboratory data. During an attack, the blood sugar will be markedly decreased, being as low as 20 milligrams per 100 cc. The carbohydrate tolerance is increased, so that the peak level following a tolerance test may be no higher than 100 to 105 milligrams per 100 cc. in contrast to a normal reaction of about 200 milligrams. Whipple has presented a triad which he believes is very useful in differentiating possible islet cell tumors: (1) attacks of insulin shock coming on during fasting or an over-fatigue state; (2) blood sugar findings of 50 milligrams per cent or less; (3) prompt relief by injection of glucose. When this triad is present, the possibility of the presence of an islet cell tumor due to an oversupply of insulin must be seriously considered.

PATHOLOGY OF ISLET TISSUE

In the gross, the benign tumors are encapsulated as are many of the questionably malignant ones. These tumors, because of their rich capillary network, are usually of

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a reddish-blue color as contrasted with the yellowish or ivory color of the surrounding pancreas. They are definitely firmer than the surrounding pancreatic tissue and feel like encapsulated masses to the palpating fingers. When the tumors are deeply embedded in the pancreatic tissue and not visible on the surface of the organ, it is often very difficult to feel them. In such instances, it is desirable to perform multiple biopsies of the pancreas in order to locate any tumor nodule that might be present. Islet cell adenomas are found more frequently in the tail or body of the pancreas. Multiple tumors often occur and for this reason it is necessary to search the entire organ after detecting the initial tumor.

On microscopic examination, these tumors, benign, questionably malignant, or malignant, all show cells typical of islet cell tissue but they differ markedly in their arrangement and differentiation. Some are typically adenomatous, resembling aggregations of islands; others are less well differentiated, with cells arranged in ribbons or in scattered collections of islet cells with varying amounts of degenerated fibrous tissue; still others in the questionably malignant group show less differentiation with some invasion of the capsule and the presence of islet cells in the capillary vessels; and, lastly, the definitely malignant tumors show lymph node, liver, and other metastasis. In all of these tumors, the demonstration of the alpha and beta cells requires careful differential stains in freshly removed tumors and, even with these stains, it is difficult or often impossible to demonstrate these cells.

SURGICAL TREATMENT

Exploration of the pancreas is indicated in those patients exhibiting the typical triad described by Whipple and in whom hepatic, pituitary, adrenal, thyroid disease and epilepsy have been eliminated. The excision of adenomas of the islet cell tissue gives a brilliant lasting cure for the hypoglycemic patient. The removal of an insufficient amount of the pancreas or the failure to detect the tumor in the head of the organ are the two most common reasons for failure to relieve the hypoglycemic patient. The recurrence or persistence of hypoglycemia below the 50 milligram per cent level after a partial pancreatectomy is a distinct indication to reexplore the patient.

There has been a definite expansion in the field of pancreatic surgery in the last few years. In the surgery of pancreatic tumors, this expansion has been most encouraging and commendable. We have found that the following measures and technical features are of assistance in the surgery of islet cell tumors:

1. Several hours before surgery, in order to avoid a drop in the patient's blood sugar level, an intravenous administration of 5 per cent glucose is started and given very slowly. This glucose solution is continued through the operation. In addition, an ample supply of blood should be on hand to combat any shock which might develop during the operative procedure.

2. Adequate exposure of the pancreas is essential and this is best obtained through a transverse abdominal incision. The pancreas then may be approached either through the hepatogastric ligament or through the gastrocolic ligament. The latter method is most commonly used as it provides easy access to the entire pancreas.

3. The body and tail of the pancreas should be inspected first for suspected tumors, since islet tumors are found most frequently in these portions of the organ. If the tumor is not seen on the anterior surfaces of the pancreas, the peritoneal attachment along the inferior border should then be divided, and by blunt dissection and elevation the posterior surface of body and tail should be inspected. The palpation of the pancreas can be more readily executed with the organ palpated between the thumb and fingers. If no tumor is seen or felt in the body or tail, the duodenum should be mobilized to the midline by reflecting the peritoneum along the greater curvature of the duodenum. This mode of mobilization of the pancreas provides ready access to the posterior surface of the structure.

4. In about 10 per cent of the cases multiple adenomas occur. This fact must be kept in mind when inspecting the pancreas. If no tumor is found in the pancreas after a very complete exploration, a decision to resect a portion of the organ will have to be made. Ninety per cent of the pancreas may be resected without the development of a diabetic state. The result from a subtotal pancreatectomy is much superior to those cases in which only a small portion of

the organ is removed. The splenic pedicle is often embedded in the superior margin of the pancreas, thus frequently necessitating the performance of a splenectomy.

5. Excision of the pancreas in a wedge-shaped fashion will provide a stump which is easily closed. The pancreatic duct should be isolated and ligated with heavy silk suture. Interrupted silk sutures are used in closing the stump of the pancreas and ligating bleeders of the pancreatic bed. Following pancreatic resection, the pancreatic bed always should be drained with a rubber dam tube or a cigarette drain.

6. The patient is followed after surgery by both the surgeon and the internist. During the first two or three postoperative days, frequent estimations of blood and urinary sugar levels are made. It is sometimes necessary to administer insulin for a few days until the remaining islands of Langerhans all begin functioning sufficiently to control the transitory hyperglycemia state.

CASE REPORT

Mr. A. C. T., a 46-year old white male, a farmer, was admitted to the hospital on May 30, 1947 with a chief complaint of "weak spells" for five years.

History of Present Illness. The patient's wife had noticed that for about twelve years he had complained of extreme weakness and "weak trembles" which could be relieved promptly by the ingestion of food. For approximately 10 years before admission his wife stated that he was "given to spells of depression," during which time he was less interested in his family and children and would sit around as if he were in deep thought. However, he did continue to do his work around the farm, and, other than the above, seemed to be all right.

For five years prior to admission, the patient had had recurrent bouts of marked weakness which lasted for approximately two hours and were readily relieved by the intake of food. For approximately 9 months prior to admission, the patient had had generalized convulsive attacks of mild nature with no aura, nausea or vomiting, post-convulsive sleep or incontinence. He did not lose consciousness and the attacks were always accompanied by profuse sweating. He had attacks of this kind almost every morning which usually occurred before breakfast. His wife noticed that they could be averted by the ingestion of food. The attacks became more severe so that during the two months

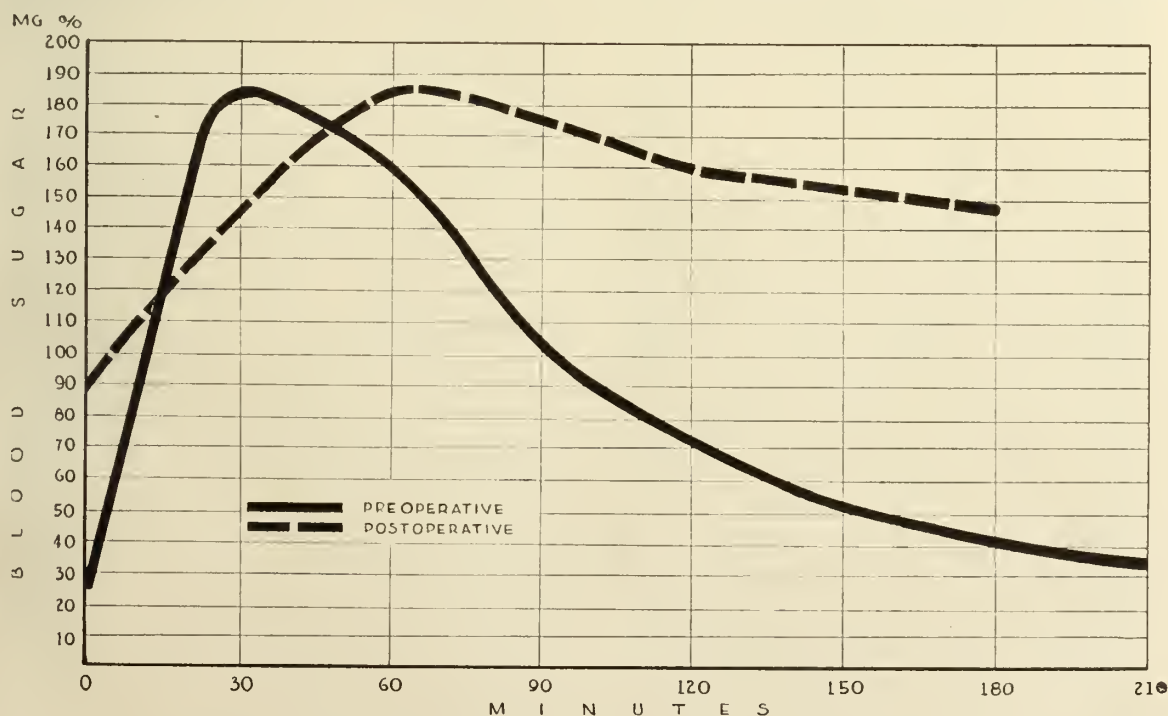


Fig. 1
Comparison of Preoperative and Postoperative Glucose Tolerance Curves

prior to admission, he lapsed into coma several times, being comatose on one occasion for as long as twelve hours. During these periods of coma, he would not respond to questions, though he would look at you when he was spoken to. He had been observed in the hospital in both types of attacks mentioned above. Dilantin apparently had no effect upon the attacks.

Family History. The patient had one sister who was reported to have attacks very similar to those of the patient. His grandmother committed suicide at the age of forty-five and his father was a patient in the hospital for the insane on two occasions.

Physical Examination. Examination revealed a rather poorly nourished white male who responded very slowly to questions asked him. Deep reflexes were hyperactive. During an attack of coma, the patient was completely flaccid and moved only eyes and eyelids.

Laboratory Findings. Hemoglobin 95 per cent, red blood cells 5,040,000, white blood cells 11,350. The urinalysis was negative. The patient's blood sugar during an attack was reported as low as 29 milligrams per cent. In Figure 1 the patient's glucose tolerance curve performed five days before surgery is compared to the glucose tolerance curve which was taken thirty-three days postoperatively. Diagnosis of adenoma of insular tissue of pancreas with hyperinsulinism and associated moderate cortical degeneration was made.

Summary of Operation. On July 16, 1947, the upper abdomen was opened through a transverse incision. Exploration of the liver and abdominal cavity was negative. The pancreas was exposed through the gastrocolic ligament. Palpation of the entire structure revealed no definite adenoma except a suspicious firm area in the tail of the pancreas, which, on biopsy, was reported negative by the pathologist. The pancreas was mobilized, first inferiorly and then superiorly from the tail toward the head and past the superior mesenteric vessels. The head of the pancreas was mobilized by reflecting the duodenum downward and medially. On the posterior surface of the pancreas, at the junction of the body and head, there was a firm, palpable area, pinkish grey in color, about 1½ cm. in diameter which appeared to be encapsulated. Re-

section of 85 per cent of the pancreas, including the adenomatous area, was performed. The pancreatic stump was excised in a wedge-shaped fashion and closed with interrupted silk sutures and covered with omentum. Two large penrose drains were inserted in the region of the pancreatic stump. Closure was done by layers.

Postoperative Course. The patient's immediate postoperative course was uneventful. He was up and about the ward on the eighth day and was discharged from the hospital on August 19, 1947. His wound healed well, with the exception of the point where the two penrose drains were removed, from which there was a persistent serous drainage for three weeks following the operation.

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Dicumarol—Dicumarol should not be given in full dosage in the presence of renal insufficiency as the effect is greatly prolonged. Hepatic insufficiency obviously produces the same effect. Purpura of any type adds capillary weakness to impaired coagulation. Vascular weakness is also present in subacute bacterial endocarditis. In short, any type of blood dyscrasia with a bleeding tendency prohibits the use of anticoagulants. Recent cranial or spinal cord surgery eliminates these agents because of the danger of even slight bleeding. In general, these drugs must be used cautiously in the presence of ulcerative lesions, open wound or potentially bleeding surfaces. A hazard exists in the presence of gastric or intestinal obstruction, gastric or intestinal drainage, and known dietary or nutritional deficiency. —Murphey, J. Tennessee M. A., Aug. '48.

Treatment of Burns—The treatment of severe burns begins immediately. Morphine in adequate doses should be given at once in order to reduce shock by the prevention of as much pain as possible. Morphine is given in doses as high as one-half grain to our patients with severe burns. This may be repeated in two to three hours, if necessary.

The general treatment of shock is instituted at once. The head is lowered, the patient is kept warm. Massive sterile dressings are applied over the burned area and the clothing is not removed until after transportation. The clothing and the burned structures are sufficiently sterile to provide a portion of a satisfactory first aid dressing.

The patient is moved to the hospital where a separate crew has been instructed in the use of our technique in the handling of severe burns. I have prepared a set of materials which is always kept in readiness for these types of burns, which you may obtain. The patient is put in bed on sterile linen. One portion of the burn is cleaned at a time, without disturbing the other portions. This is necessary for the control of pain, prevents too severe an effort by the patient, and aids in the reduction and control of shock. The burns are cleansed with mild soap and water; sometimes benzine is used or even ether. This is especially true in greasy burns. The blisters are kept intact and the burned fragments of tissue may be removed if they can be removed without pain to the patient. We have never made an extensive debridement requiring an anesthetic. The debridement which is used has been without effect upon the general condition of the patient. Many of the supposedly destroyed areas will produce islands of epithelium from which new skin may grow. With the cleansing of the burned areas, a cod liver oil based ointment is applied to the burned tissue. The burn is completely covered with this ointment. The gauze that is used is of a narrow mesh quality and has been prepared beforehand and placed in a flat pan and impregnated with the above ointment so that the burn may be covered rapidly with the ointment with the least possible loss of time. External heat is maintained, the patient being kept warm but not too hot. Extreme heat tends to produce shock and hastens fluid loss. With the covering of the entire burn by the narrow mesh, impregnated gauze, dry gauze is then applied over the first layer of gauze to sufficient thickness. This is now covered by sterilized mechanic's waste which will maintain an elastic pressure and prevent the fluid loss which is so detrimental to the general condition of the patient. The pressure dressing may now be covered by a form of bandage which is very often in the nature of a five-yard roller bandage, and in extensive burns we like to use the so-called "overall system," which consists of the use of stockinette fitted to the patient and sewed firmly over the mechanic's waste, thus insuring a stabilized dressing which will not become disarranged.

Plasma is started immediately in burns of any extent. The percentage of the body tissue destroyed or involved in the burn is one of the important factors in the anticipated amount of plasma needed and also in the ultimate progress

of the patient. The head is considered to be 6 percent of the body surface; the trunk, including the neck, 38 percent; anterior surface only, 20 percent; posterior surface only, 18 percent; upper extremities, 18 percent; arms, 13.5 percent; hands, 4.5 percent; lower extremities, including buttocks, 38 percent; thighs, 19 percent; legs, 13 percent; feet, 6 percent. It is well known that extensive burns, even if they are superficial, but extensive in the amount of body involved, are particularly dangerous. They are more dangerous in children than in adults. It is common knowledge that a burn of one-third of the body carries a very guarded prognosis. With the treatment outlined we have had many patients with burns of 50 to 80 percent of the body survive. It is our custom to use a form of tetanus serum, usually the combined antitetanic and gas gangrene serum. This is especially true in the extremely dirty burns which we so often see. The plasma need is calculated upon the basis of 50 cc. per 1 percent of body surface burned.

In all burns the body loss of fluid, including salt and serum, is extremely high and rapid. Consequently it is necessary to supply an enormous solution of saline with glucose, as well as plasma to the patient until such time as the loss of the chlorides in the body, water and serum has become under control. With extreme loss of the fluids and the chlorides, as well as the serum, the burned patient suffers from a toxemia which is detrimental to the welfare of the patient and may result in toxemia affecting the liver, spleen, kidneys and adrenals.

Occasionally there is a total suppression of urine. In these patients one of the best methods of controlling this particular symptom is by the use of fluids, the use of diuretics and the application of heat over the kidney region.—*Cole, J. Indiana M. A., Aug. '48.*

The General Practitioner—Looked upon too often as "just a doctor," the general practitioner for years has been the prime guardian of individual health. Since the health of the individual is the basis of community and national health, the importance of the role of the general practitioner makes itself immediately apparent.

James E. Paullin, a distinguished medical specialist of Atlanta, recently told a meeting sponsored by the American College of Surgeons that America probably has more specialists than it needs and that the role of the family doctor or general practitioner will grow more important in coming years.

Far be it from me to attempt to belittle the specialist. He has his place and he is a necessary link in the therapeutic chain. But every specialist should have a good general training before he goes in for specialization. Dr. Paullin rightly observes: "A good general practitioner has the health and life of his patients in his hands, and if serious complications arise he will call in consultants." These may be specialists.

The family doctor treats every member of the family and he knows them intimately. This background aids him greatly in diagnosis and treatment.—*Barnett, J. M. A. Georgia, Aug. '48.*

THE JOURNAL

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DIURETICS

"Diuretics are indicated in congestive heart failure when, despite the use of digitalis, limited activity and a limited salt intake, the patient has (1) attacks of paroxysmal nocturnal dyspnea, (2) dyspnea on moderate exertion, (3) enlargement of the liver due to congestion, or (4) distended neck veins. One does not wait until pitting edema is evident for the patient may accumulate as much as 15 pounds of excess fluid before clinical edema appears. After dehydration of the patient to the condition of maximum comfort his weight should be determined. A gain above this basic weight of more than three pounds of fluid is usually an indication for administering another dose of the diuretic."

The above paragraph is from the article by Merrill¹ which was published in the American Practitioner. The Atlanta investigator goes on to tell us that "osmotic diuretics act by simply carrying off an obligatory amount of water with them, and since they increase sodium excretion relatively little they are not extremely effective. Fifty per cent glucose intravenously may be used when more active diuretics are con-

traindicated." Urea, we are told, is quite useful in some patients, but its disagreeable taste prevents a wider usage. "Theophylline is by far the most potent and is the best of oral diuretics with the possible exception of mercurials, but unfortunately it causes marked gastric irritation and can rarely be given for more than two or three successive days."

The author asserts that "mercurial diuretics have added many years of comfort to the lives of thousands of cardiacs. They are by far the most potent of diuretics . . . There seems to be little choice between the three commonly used mercurials, mercupurin, salyrgan with theophylline, and mercuhydrin. All contain theophylline which seems to help prevent sloughs if the material leaks into the tissues. It makes intramuscular administration less painful. Some evidence has been presented to show that mercuhydrin is less toxic than the other two, but this is not striking. Some of the reactions are those of general mercury poisoning with diarrhea (sometimes bloody), abdominal cramps, etc. Muscular cramps occasionally occur, supposedly due to chloride deficiency, and may be prevented by simultaneously giving ammonium chloride."

Renal insufficiency and acute glomerulonephritis are the chief contraindications to the use of diuretics.

Merrill advocates a dosage of the mercurial diuretics ranging from 0.5 to 2 cc. and says that "this may be repeated as often as twice a week indefinitely without giving any evidence of renal damage at autopsy." And we are told that "no patient with malignant hypertension should receive these drugs without obtaining a blood N. P. N. determination." Also, we are informed that "benign hypertension and marked albuminuria are no contraindications to the use of these drugs. Patients with the nephrotic syndrome of glomerulonephritis and patients with cirrhosis of the liver are sometimes benefited by mercurial diuresis."

Merrill's short but excellent consideration of this subject is well worth the attention of the profession, especially internal medicine men and those in general practice. Many practitioners with twenty five years of experience behind them can vividly remember the toxic efforts of the earlier mercurials,

1. Merrill, Arthur J.: Principles in the Use of Diuretics, Am. Practitioner, 11: 234 (Dec.) 1947.

particularly novasurol, and it is natural for them to look askance at any and all mercurials. But the newer preparations seem to be just as effective and very much safer, especially if employed with judgment and discrimination. And, when indicated at all, they must be used much more promptly than has been the case in the past. Merrill is most certainly correct when he warns us not to wait until pitting edema appears.

SOUTHERN MEDICAL ASSOCIATION

MIAMI, FLORIDA, OCTOBER 25-28

The forty-second annual meeting of the Southern Medical Association will be held at Miami, Florida on October 25-28 with the Dade County Medical Association as sponsor.

At a meeting of the Executive Committee on July 24, Dinner Key was selected as general headquarters for the following: registration; all section meetings, scientific, technical and hobby exhibits; and motion pictures. Dinner Key (the former Pan American Air Depot) is ten minutes' ride from the general hotel headquarters and makes it possible to hold all of the above activities in one location. There is parking space for over a thousand automobiles around the main building.

The evening programs, which will include the General Public Session, the General Session and the President's Ball, will be held at the Municipal Auditorium. The auditorium is just off of Biscayne Boulevard and is only a short distance from the general hotel headquarters.

Hotel reservations will be handled by the Hotel Committee, Southern Medical Association Meeting, c/o City of Miami Convention Bureau, 320 N. E. Fifth Street, Miami 32, Florida. Since the meeting is being held earlier than usual, all requests for rooms should be made immediately.

There will be twenty-one section meetings, two general sessions, one conjoint meeting (American College of Chest Physicians, Southern Chapter) and the "Miami Day" General Clinical Sessions.

Plans should be made at once to attend the convention. It is hoped that many of the physicians will postpone their vacations for Miami and its environs in October.

PREVENTIVE MEASURES FOR ATOMIC EXPLOSION

The question as to what would happen to an American city in case of an atom bomb attack we hope will never be answered. Speculations as to the number of casualties produced have varied between 15,000 and 200,000 in a city of a quarter of a million persons. Although these guesstimations vary over a wide range, each speculator can produce a fairly firm basis for his calculations. The above statement may appear ambiguous, but the numerous variables in a calculation of this type dictate such a wide variation in answers. Our estimate of casualties falls about midway between the two limits.

First, as to the weapon as now known, and the possible improvements which may be attained. The only sound basis for the extent of damage produced depends on the destruction inflicted on the Japanese cities of Hiroshima and Nagasaki. The improvement in efficiency attained since the original bombs were detonated is restricted information and not at our disposal. However, we may assume that the upper limits of destruction will not more than double unless some new basic information is uncovered. This assumption may be considered valid because results fall off rapidly with increasing distance. A comparison with the better known results of "HE" bombs demonstrates that two 500 pound bombs do more damage than one 1000 pound bomb. Therefore an upper limit of efficient use is placed on any type of detonation unless new concepts of energy production are involved.

Second, how does the vulnerability of an American city compare with that of the cities of Japan? Here we encounter difficulties. One group will argue that American buildings are of sturdier construction and therefore offer better protection against blast damage and fire. A second group insists that our buildings will only furnish more rubble to act as missiles causing increased mechanical injuries.

We should remember that the large buildings in Japan were built to withstand earth-

A part of a symposium on military epidemiology recently presented at the School of Public Health of Harvard University, this contribution being by Major A. J. Bauer, U. S. Army, Medical Corps.

quakes and in many cases compare favorably in structural strength with our construction. If our buildings can withstand the original blasts of detonation there is no question that they will furnish protective shielding against radiation damage to personnel. If the buildings topple, or if the veneering is torn off, persons will be covered by this material and the former protection becomes a lethal weapon.

For our speculations, let us consider broad zones of destruction. These readily fall into three. Zone 1, extending out one mile from the center in which destruction is almost complete. Zone 2, extending from 1 to 2 miles, in which there is serious damage with destruction about 50% complete. Zone 3, extending from 2 to 3 miles, in which damage is minor. We can estimate 100% casualties in zone 1, almost all fatal. Of the personnel in zone 2, 75% will be injured, approximately one-half fatally, so Zone 3 will produce minor casualties.

We now have a degree as to the number of casualties involved. We hope you will agree that it will be in the 10's of thousands. We think that is as accurate as it is safe to limit our plans.

Has this broad limit been of any assistance to us in our planning? Yes, we believe so, because it forces us to one conclusion. We must be prepared to handle casualties on a scale never dreamed of in the past.

How would we like to have the general public prepared for such an eventuality? With the large number of burns and mechanical injuries expected, the immunization of the population against tetanus should be considered. Disruption of water supply and sewage disposal systems would suggest immunization against organisms infecting the digestive tract wherever possible, along with preparations and instructions in individual water purification.

The demand for blood transfusions suggests the advisability of pretyping the population and devising some method of indicating the individual's type.

Considerable work is being done in the use of drugs as a protection against radiation. So far these experiments have not been conclusive but future knowledge may well suggest the advisability of incorporating some substance in a common food, such as bread.

One important preparatory procedure usually ignored is the psychologic preparation of the general public for such an attack. We believe this can be best handled by keeping the public informed as to the possibilities and to our capabilities to handle such disasters. Any false complacency through over-optimism will lead to a severe psychologic shock in case of a disaster. On the other hand over-emphasis of the devastation produced may lead to panic.

Since light-colored loose clothing furnishes good protection against flash burns, the cooperation of clothing designers may be important in our plans for preparation.

The special problems involved in handling casualties on the scale expected in an atom bomb attack will center on the treatment of large numbers of patients. Tremendous supplies of drugs, dressings, etc. will be required. One item which will be used in vast quantities will be whole blood. The number of blood transfusions required will be fantastic. The number of blood typings necessary will require some plan whereby laymen trained in blood typing can be utilized. In all probability, laymen trained in taking and administering blood will be used to carry out the transfusing operation.

The plans for caring for these casualties must involve large areas. One definite statement may be made of such plans. The area which each group can ignore in its plans is its own locality. The shocking power and devastation wrought by an atom bomb so disrupts an area that outside help is necessary to carry out operations.

All of the health measures now taken in cases of widespread disaster will have to be instituted in an atom bombing, the only difference being that this disaster will be more widespread and complete than those we now know.

So far, we have not touched on the special problems caused by radioactivity. If the bomb is detonated high in the air, residual radioactivity will not be a problem. Casualties from immediate radiation have in the past comprised between 15% and 20% of the cases treated. A considerably higher percentage received lethal doses of radiation, but these died of other causes. However, a city prepared for an atom bomb attack by protecting the population with sturdy buildings may well furnish us with a larger per-

centage of patients suffering from radiation illness. Persons behind large thickness of concrete may escape injury from flying materials or even gamma radiation only to receive serious doses of neutrons.

Treatment may be divided into two broad categories: one, those of proven value which consist of good nursing care, blood transfusion, antibacterials, vitamin C, intravenous glucose and saline; and, two, those of questionable value which consist of vitamin B₆, toluidine blue, protamine sulfate, rutin, and adrenal cortical hormones.

The large number of cases will require a sorting of patients as to those not treated because of the hopeless prognosis and those who may be helped by therapy. Since a rapid drop in lymphocytes is the best estimate of radiation damage at our disposal, we can predict a large number of white blood counts and differentials being required. Here again laymen trained in this procedure will be necessary.

The most important preventive measure in preparation for an atomic bomb attack is outside of our field. That is a national policy which will make all of our efforts superfluous. It is the only true preventive measure for the power of this weapon is so great that regardless of the preparations the casualties will be terrific. However, the effects can be reduced by planning and we cannot afford not to plan as long as any possibility of attack is present.

This plan of emergency operation must differ from any of the past in that it will have to be on a national basis. Cities must plan to handle the emergencies of their neighboring cities. The director of the emergency plan for one city must be a resident in some other community. The neutrons that fission the atoms will force our people closer and closer together.

WANTED BY THE FBI

Hugo Bob Hubsch, with aliases Robert C. Glass, R. C. Harris, Hogo Hobsch, Louis S. Miller, is being sought by the Federal Bureau of Investigation. On November 7, 1945, a Federal Grand Jury at Jackson, Mississippi returned an indictment charging this man with a violation of the National Stolen Property Act. He is charged with another violation of the National Stolen Property Act in a complaint filed with a U. S. Com-



missioner at Birmingham, Alabama, on June 7, 1948. This individual has defrauded numerous physicians and hospitals in eastern and southeastern sections of the United States during the past few months through the medium of fraudulent checks.

Investigation has revealed that Hubsch, in an effort to obtain narcotics and sedatives, frequently contacts physicians and hospitals in the following manner: He claims that he is suffering from a chronic kidney ailment and pretends that he is then in considerable pain. He frequently asks for an x-ray picture and in making himself ready for the picture places a small stone under the right side of his back in the exact position of the right kidney. The x-ray taken in this manner makes it appear that he has a large kidney stone in the right ureter near the kidney. The x-ray photograph tends to confirm the representations of the fugitive and he often obtains sedatives, narcotic prescriptions or treatment from the physician or hospital contacted. In return for such services he gives fraudulent checks.

The following is a composite description of Hugo Bob Hubsch: age, about 52, claims to have been born Budapest, Hungary, November 4, 1895; height, about 5' 6"; weight, 140 to 170 lbs.; hair, dark brown, graying; eyes, brown; build, medium; race, white; nationality, believed to be naturalized American; occupation, laborer, pharmacist; scars and marks, left arm partially paralyzed, needle scars on both arms, large scars above each hip resulting from kidney operations, shrapnel scars and two bullet scars on abdomen, bridge in upper front teeth; characteristics, long nose, stooped posture.

Anyone having information concerning the whereabouts of this fugitive should im-

mediately notify the nearest office of the Federal Bureau of Investigation or your local law enforcement agency.

NASHVILLE POSTGRADUATE MEDICAL ASSEMBLY

The Nashville Academy of Medicine will conduct its first Regional Postgraduate Medical Assembly on October 6-7, 1948.

Papers will be read by twelve out-of-state visiting essayists on timely subjects, including the fields of obstetrics, eye, ear, nose and throat, orthopedics, urology, plastic surgery, antibiotics, anemias, endocrinology, gynecology and radiology.

Subjects within these fields have been so chosen as to have appeal and interest for the general practitioner also, and it is emphasized that credit may be had by members of the American Academy of General Practice for attendance at this Assembly.

The Nashville Academy of Medicine is glad to offer this outstanding postgraduate program for the benefit of all physicians in Tennessee and adjacent states. Personal announcements and invitations have been mailed to physicians in the mid-south area.

Hotel reservations should be obtained at the earliest possible date; the Andrew Jackson and the Hermitage Hotels of Nashville can accommodate early requests.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

D. G. Gill, M. D.
State Health Officer

THE BLACK WIDOW SPIDER

Hazards to life, limb and health rise and fall, like the waves of the sea. In winter we are much more susceptible to coughs and colds than in summer. In cold weather, too, the danger of developing influenza is much greater. In summer, children need to be guarded with particular care against poliomyelitis, or infantile paralysis.

These rises and falls in the danger curves are equally observable when they apply to accidents. The chances of your drowning are much greater in summer, the swimming and diving period, than in those parts of the year when the last thing the average person wants to think about is going into cold water. The summer season, too, is the time when most people take long automobile trips. It is the time when they engage most often in various outdoor sports. It is then that they spend more time in the woods and fields. It is then, therefore, that most of us are in especially great danger of being injured by accidents of many kinds associated with those summertime activities.

You probably have given some thought to the dangers that have just been mentioned, both those having to do with accidents and those due to sickness and disease. But there is one which probably has escaped you. It

is not as likely to prove fatal as many of the others. But it can and does. I refer to the danger of being bitten by the Black Widow spider.

From time to time the newspapers of this and other states report cases of this kind. Many other cases occur of course without being mentioned in the press. No doubt still others occur without being known about except by those directly concerned. Indeed it is probable that a considerable number of people are bitten by Black Widows and either recover or succumb without knowing what has happened.

Like other kinds of accidents, except those occurring in Pompeian swimming pools and other play places of the rich and famous, being bitten by a Black Widow is an experience that may happen to almost any of us. The rich, the poor, the farmer, the banker, the manufacturer, the doorman, the office worker, the man who works with his hands—any and all may suddenly face the problem of what to do about Black Widow spider poisoning.

One of those who did so about two years ago—in August 1946—was the moving picture actor Sonny Tufts. He was kept off the set for a day or two after a Black Widow bit him on the eye-lid while he was sleeping. Other people, most of them considerably less well known than this Hollywood favor-

ite, have been bitten on the hands, feet and legs and in various other parts of the body.

A fairly typical case that occurred nearer home—in this state in fact—claimed a fifteen-year-old boy as its victim. He was bitten while chopping wood. The newspaper report of the incident told how the spider climbed up the youngster's trouser leg while he was cutting away with his ax. Then it gave him a vicious bite on the knee. In a short time the lad began experiencing the characteristic symptoms. The newspaper story did not state whether he succumbed. But presumably he did not, since otherwise that fact would probably have been mentioned. But, even then, it is almost certain that both he and his parents spent some anxious hours waiting for an answer to their troubled questioning as to whether he would live or die.

The medical journals also give some attention to Black Widow spider poisoning. It also receives consideration by physicians and institutions. The Fresno County General Hospital and the Los Angeles General Hospital, for example, kept records of cases of this kind that were treated by their staff members over a period of several years. One hundred and twelve cases were admitted during that period. All of them survived.

The favorable experience of these hospitals has not been duplicated in all the other hospitals that have treated Black Widow poisoning cases, however. And it would be a mistake to get the impression that this is something that does not need to be taken seriously.

For one thing, remember, all of those 112 cases were hospitalized. This means that they received medical care. Had none of them received this care, it is more than likely that there would have been some fatalities.

Because so many cases of Black Widow poisoning are not reported, we have no way of knowing how many occur. Nor do we have any idea how many deaths that are attributed to other causes actually are due to this one.

A sobering commentary on the potentialities of Black Widow spider poisoning is found in a report issued several years ago by the well known Smithsonian Institution, in Washington. The Institution's scientists asserted that the venom discharged by this

type of spider was some 15 times as potent as rattlesnake venom. The conclusion of these scientists was based, they wrote, on extensive experiments with rats: It required only one-fifteenth as large a quantity of Black Widow spider venom as snake venom to dispatch a certain number of rats of a certain size. The killing power of this type of poison has also been emphasized by some physicians in Fresno County, California. They said flatly that it was by no means rare for it to prove fatal to a child.

Prompt and effective medical treatment is the best insurance against a fatal outcome. It is unfortunate, therefore, that the symptoms of Black Widow spider poisoning are somewhat slow in appearing. And when they do appear, they may cause the victim to attribute them to entirely different, and of course erroneous, causes. All potential victims should become better informed about this condition than most of us are. We should develop a Black Widow consciousness so as to be on the lookout for this troublesome and dangerous insect, especially at the time of the year when we are most likely to be bitten. (As already indicated, that time is the summer.) We particularly need to be familiar with its symptoms. So let us consider them for a few moments.

Like most other human ailments, Black Widow spider poisoning produces intense pain. Or perhaps I should make that word plural. For what one experiences at such a time is not a single pain but a whole series of pains. They begin at the spot where the bite occurred. From there they radiate, spiderweb-fashion, all over the body. They are usually felt with particular severity in the abdomen. Since abdominal pain is also one of the symptoms—perhaps the most familiar symptom—of appendicitis, it is not surprising that many Black Widow poisoning victims think they have that disease.

Fortunately for diagnosis, there are also other symptoms of Black Widow poisoning. Some are present in some cases but not in others. Any of them should make one think of this condition if there is reason to believe one has been bitten. One may experience muscle spasms or suffer cramps. Breathing may be labored or difficult. One may break out with a skin rash. There may be dizziness; and convulsions may occur.

Black Widow spider poisoning directly affects the nerves. Thus the victim often becomes highly nervous. The body temperature usually drops markedly below normal soon after the poison enters the body. Then, after a while, it begins rising. Soon it reaches a point well above normal. The pulse rate is speeded up in most cases. A child is more likely to have convulsions than an older person. Children also usually experience them more quickly than their elders.

Attention has been called to the widely held but fallacious belief that whiskey is a sovereign remedy for snakebite. Instead of being helpful, whiskey tends to aggravate the harm done by the snake venom. The same is also true of whiskey and Black Widow spider venom. A well known public health official expressed the present-day medical view when he said: "This (whiskey) or any other alcoholic beverage is just about the worst possible medicine for both (snakebite and Black Widow spider bite) and should never be resorted to under any condition."

The Black Widow spider has this in common with disease-carrying mosquitoes: The female of the species is far more dangerous than the male. Indeed it may properly be said of both Black Widows and mosquitoes that only the female is dangerous at all.

What, then, are the physical characteristics of this female insect with the power to inflict pain and even death upon men, women and children? How can she be recognized and avoided?

To begin with, she has a considerable measure of physical beauty, of a kind. In size she approximates an ordinary shoe button in shape. Her over-all body has a striking sheen. And, generally speaking, of course the body is black, as you would assume from her name. However, she is not black all over. For one of her striking characteristics is a crimson yellow-edged spot shaped like an hour glass. That is on the abdomen. Infrequently Black Widows are found with spots also on the back. There may be one or two of them. They may be yellow or red. Even more rarely, a Black Widow may be found with both yellow and red spots on the back.

Spiders are traditionally prolific. The Black Widow is especially so. She lays her

eggs—from 300 to 400 of them—in a tough cocoon containing a protective outer covering composed of a silky, paperlike material. The inner portion—the cocoon proper—is about half an inch in length. Those 300 or more eggs remain there for about six or seven days. Then they begin hatching. Unlike other forms of life, they do not have to go through a period of strength-building. Instead, they show remarkable vigor from the moment they are hatched. Almost immediately they begin scattering and in almost no time are widely dispersed. About 40 days after being hatched they reach the adult stage.

I have spoken of the female Black Widow's striking beauty. But no one can, with truth, praise her web-building ability. The simple fact is that she is about the sloppiest web-builder there is. Those she spins are so poorly done indeed that one cannot help thinking of them as the handiwork of a rank amateur. There is no comparison between them and those spun by other and less dangerous spiders.

But, crude and coarse as they are, they serve their purpose satisfactorily. That purpose of course is to snare victims and keep her well fed.

The Black Widow is extraordinarily patient. She may hardly move for hours while she waits in her small nest in the center for a fly or some other insect to become entangled in those coarse strands. Then she hurls herself into the attack. If it is not too large and strong, she may bite it to death. If that is not likely to prove effective, she may get it so entangled in the web that it is helpless. Then the rest is easy.

The female Black Widow is not vicious, as far as humans are concerned. That may be hard to believe, in view of her reputation for poisoning and occasionally even killing people. But it is true. Given a chance to scurry back to her little nest in the center of her web, she will do so when humans approach. When she does bite, it is usually because she is frightened or prevented from getting away.

If and when you are bitten by a Black Widow spider, call a doctor without loss of time. For time, remember, is of the essence. He knows what needs to be done. He may decide to administer the serum which has been developed for this type of poisoning.

Certainly the layman victim should not make this decision (as to its use) himself, and the actual administration of the serum is certainly no task for a layman.

BUREAU OF LABORATORIES

H. P. Sawyer, M. D., Director

SPECIMENS EXAMINED

JUNE 1948

Examinations for diphtheria bacilli and Vincent's	194
Agglutination tests (typhoid, Brill's and undulant fever)	1,504
Typhoid cultures (blood, feces and urine)	645
Examinations for malaria	1,007
Examinations for intestinal parasites	3,564
Serologic tests for syphilis (blood and spinal fluid)	30,401
Darkfield examinations	29
Examinations for gonococci	2,848
Examinations for tubercle bacilli	2,926
Examinations for meningococci	3
Examinations for Negri bodies (microscopic)	132
Water examinations	1,420
Milk and dairy products examinations	3,835
Miscellaneous	619
Total	49,127

BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

1948

	May	June	E. E.* June
Typhoid	8	2	10
Typhus	18	23	26
Malaria	47	50	314
Smallpox	0	0	0
Measles	281	121	361
Scarlet fever	27	40	30
Whooping cough	191	240	170
Diphtheria	24	12	11
Influenza	72	21	61
Mumps	145	63	91
Poliomyelitis	4	6	6
Encephalitis	2	0	1
Chickenpox	174	86	44
Tetanus	5	5	5
Tuberculosis	285	233	267
Pellagra	0	4	3
Meningitis	11	3	8
Pneumonia	142	85	148
Syphilis	2297	1202	1448
Chancroid	23	15	17
Gonorrhea	607	475	594
Tularemia	5	0	1
Undulant fever	6	8	5
Amebic dysentery	1	0	0
Cancer	364	223	0
Rabies—Human cases	0	0	0
Positive animal heads	46	23	0

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

Provisional Birth and Death Statistics, April 1948
and Comparative Rates

Live Births, Stillbirths, and Deaths by Cause	Number Registered During April 1948			Rate* (Annual Basis)		
	Total	White	Colored	1948	1947	1946
Total live births	6265	**	**	25.1	27.2	20.4
Total stillbirths	189	**	**	29.3	29.9	37.7
Deaths (stillbirths excluded)	2088	1219	869	8.4	9.2	8.0
Infant deaths:						
under one year	235	135	100	37.5	41.4	44.9
under one month	161	95	66	25.7	26.8	30.4
Causes of Death						
Cerebrospinal meningitis 6	1	1		0.4		0.8
Scarlet fever 8	1	1		0.4		
Whooping cough 9	6	2	4	2.4	4.4	0.4
Diphtheria 10	1	1		0.4	1.2	
Tuberculosis, all forms 13-22	80	32	48	32.1	41.7	40.5
Malaria 28						1.6
Syphilis 30	25	7	18	10.0	9.6	10.9
Influenza 33	20	8	12	8.0	27.3	12.6
Measles 35	3	2	1	1.2	3.6	6.5
Poliomyelitis 36	1		1	0.4	0.4	0.4
Typhus fever 39	3	3		1.2	0.4	0.8
Cancer, all forms 45-55	197	137	60	79.0	83.8	72.9
Rheumatic fever 38	6	1	5	2.4	**	**
Diabetes mellitus 61	31	20	11	12.4	13.2	9.7
Pellagra 69	5	4	1	2.0	3.6	3.8
Alcoholism 77	5	4	1	2.0	0.8	0.8
Intracranial lesions 83	237	135	102	95.0	95.8	76.6
Other diseases of nervous system 80-82, 84-89	28	14	14	11.2	***	***
Diseases of the heart 90-95	513	351	162	205.7	192.5	173.0
Diseases of the arteries 96-99	33	21	12	13.2	9.2	8.5
Other diseases of the circulatory system 100-103	4	2	2	1.6	***	***
Bronchitis 106	4	3	1	1.6	0.4	2.0
Pneumonia, all forms 107-109	82	49	33	32.9	49.3	40.1
Diarrhea and enteritis, under 2 years 119	4	4		1.6	0.8	4.9
Diarrhea and enteritis, 2 years and over 120	3	2	1	1.2	1.2	0.8
Appendicitis 121	4	1	3	1.6	4.4	4.5
Hernia and intestinal obstruction 122	13	8	5	5.2	9.2	7.7
Cirrhosis of the liver 124	13	9	4	5.2	4.8	6.1
Nephritis, all forms 130-132	136	64	72	54.5	62.2	59.2
Other diseases of the genito-urinary system 133-139	21	11	10	8.4	***	***
Diseases of pregnancy and childbirth 140-150	19	5	14	29.4	27.2	24.9
Puerperal septicemia 140, 142a, 147	5	2	3	7.7	7.1	11.5
Congenital malformations 157	28	21	7	4.5	***	***
Suicide 163, 164	12	12		4.8	6.4	7.3
Homicide 165-168	33	8	25	13.2	12.4	11.8
Accidental deaths 169-195	159	93	66	63.8	58.1	56.3
Motor vehicle accidents 170	62	38	24	24.9	18.8	16.2
All other defined causes	223	140	83	89.4	146.0	119.6
Ill-defined and unknown causes 199, 200	134	43	91	53.7	67.0	58.8

*Birth and death rates per 1,000 population; infant death rate and congenital malformations per 1,000 live births; stillbirths per 1,000 total births (stillbirths included); specific causes per 100,000 population; puerperal causes per 10,000 total births. All rates are based upon the April report of the years specified.

** Not available.

***Included with "All other defined causes" in 1946 and 1947

BUREAU OF SANITATION**Arthur N. Beck, M. S. in S. E., Director****RAT EXTERMINATION CAMPAIGNS IN
ALABAMA****Contributed by****H. P. Martin, A. B., M. A.
Associate Scientific Assistant**

The work of eliminating the rat as a menace to public health seems to have grouped itself into three principal phases; namely, rat proofing of buildings, the elimination of a food supply for rats through proper sanitation, and the extermination of the species.

Rat-proof construction has not been consistently practiced in the past. Strict legal regulation along that line should eventually satisfy the present urgent need for rat proofing. Rat proofing, although helpful, has not eliminated rat harborage or the supply of food for rats, chiefly due to lack of proper maintenance.

Such things as the careless handling of food and feed outside buildings, the improper stacking of materials and junk, wrong construction of outbuildings, and improper disposition of garbage have furnished shelter and food for rats. A combination of the above, in spite of rat proofing, has produced a recurring supply of rats which has necessitated efforts at their extermination. No method has yet been found to eliminate the need for continuous city-wide extermination campaigns.

Possibly more has been said about the unfavorable side of the extermination campaigns than the favorable. They have been called temporary measures in typhus control: the treadmill proposition. Many have spoken of them as of doubtful value, and until the advent of standardized red squill poison they were somewhat unpopular in the eyes of the public.

In recent months the State Health Department has greatly expanded its efforts along this line and it is believed that rat campaigns have grown in public favor. This growth is due, probably, to many significant changes, some of which are evidently justifiable and will be outlined herein.

Previously, campaigns were waged altogether on Saturdays. This involved making all the bait in one day and distributing it late in the afternoon on Saturday. It was

justified on the assumption that the rats would eat more of the poison, or that at least there would be a greater chance at consumption of poison due to the fact that the animals had a long, undisturbed period in which to eat. This practice was abandoned because business places were crowded on Saturdays and people were just too busy to cooperate.

Under the old system, the procedure was to make the poison bait, put it in paper bags, and hand it out to merchants or householders and ask them to distribute it in the proper manner. The poison is now made, wrapped in waxed paper, and distributed under supervision. Without supervision, inspections revealed that about one-third of the people given bait would set it on a shelf or in a corner somewhere and forget about poisoning the rats. Of course, this meant a great waste of labor and material. Under the present practice of distribution one-third less poison is required to each town. This, combined with the fact that actually one-third more places are poisoned, adds up to a more efficient and economical campaign.

We now look upon the poisoning of each individual business house or residential premise as a technical job which must be done in such a manner as not only to kill every possible rat but also to leave a well satisfied owner of the place. If the bait is scattered promiscuously around, it makes a bad appearance and is not very likely to be eaten by the rats, but is apt to be destroyed or swept out in a day or two and forgotten. On the other hand, if the right amount of bait is placed near each section of the building that harbors rats, behind something in a dark or a protected place, the rats will be more likely to get it. The bait may remain and be eaten for many days by other rats from outside the building. Another big advantage is that any amount may be used in this way without the owner being disturbed by the bugaboo of too much poison being wasted.

Still another change in Health Department procedure is the practice of poisoning a whole town instead of just the business section. A few years ago more than seventy-five percent of the campaigns covered the business sections of towns only. In the last twelve months, in more than seventy-five percent of the places worked, both business

and residential sections have been poisoned. It is believed that in towns where the first few cases of typhus have just occurred, poisoning in the business section only might control the spread of the disease for a short time. In most towns where there is a reservoir of infection of long standing among the rats, poisoning only the business sections would be inadequate.

Some observations along this line might be of interest. For example, three cases of typhus occurred in Prattville, Alabama in the fall of 1944. The business section was poisoned in January of 1945 and there were no other cases reported from the town proper. Five cases of the disease occurred in Clayton, Alabama in the summer of 1946. The whole town was poisoned in July 1946 and again in 1947. No additional cases have been reported to date. Fourteen cases occurred in Selma, Alabama in 1945. The business section was treated with DDT powder four times and the same area poisoned three times. Only two cases were reported in 1946. In 1947 the dusting and poisoning process was repeated and only one case was reported for the year.

Another change that might be worth mentioning is the abandonment of the practice of fumigating buildings at the time of poisoning campaigns. Some objections to fumigation of buildings are that, although fumigation will kill wild life in the building at the time of poisoning, there might be many rats near the building that are left alive; and the average cost of fumigation of buildings is probably fifty dollars or more which compared to poison is very expensive.

Another practice, which is old and which, for a while, was practically abandoned, is that of printing and distributing hand bills. Hand bills, we believe, together with advance publicity in the local newspapers, are the most effective method of advertising a campaign. Instructions may be placed on them which will materially reduce the time required to poison a business or residential premise. Appealing to the occupant to leave the bait undisturbed for fifteen days would, alone, probably improve the results of the campaign enough to authorize the use of the bills. Explaining that the poison is free, and that domestic animals should not be injured when the poison is properly used, helps enormously in selling the work to the

people and saves time in answering questions. Careful comparison would doubtless prove that fifteen to twenty-five percent more homes would be poisoned in a town when this method is used than when not enough advertising is done.

In all counties where there is a large number of typhus cases reported, efforts have been made to get sanitation officers to make spot maps with colored pins to represent the location of cases. These maps are being made in some counties and the sanitation officers are checking all places where typhus occurs, and poisoning or giving assistance in poisoning, excluding or exterminating the rat. If sanitation officers have the time, interest, skill and inclination to carry out these instructions thoroughly, much good can be accomplished.

Antibiotic Drugs—Many abuses exist in the use of the antibiotic and sulfonamide drugs. Some of these abuses can and should be remedied. Some of the abuses, questionably classed as such, will for various reasons continue to exist.

Probably the worst abuse of these drugs is the tendency to neglect making a definite, complete, and accurate diagnosis of the patient's condition or other determination of indications for the drugs before starting treatment. All too often the patient with an acute infection is simply given one of these drugs without much consideration of the cause of the condition and with nothing more than the hope that benefit may result. Many times patients are given penicillin or sulfonamide for a week following surgery or delivery simply because they show an elevation of temperature, and with no thought as to the cause. These drugs do not remove the responsibility for making a diagnosis but rather increase the need for accurate diagnosis of the etiology of a given condition, since they are specific drugs and are only of benefit in conditions caused by organisms susceptible to the drug used. It is true, of course, that extensive laboratory determinations are not always available to the average physician, but he may base the use of these drugs on scientific knowledge, clinical experience, and liberal use of "horse sense."

Another prevalent abuse of these drugs is their employment in trivial conditions and in conditions where they will be of no help. This not only is expensive to the patient and does not help his condition, but also may sensitize him to the drug so that it cannot be used in the future when he sorely needs it for some serious condition. This abuse is particularly common in the use of oral or topical forms of the drugs which lend themselves to abuse by physicians or to self medication by the patient.—Cooper, *Texas State J. Med.*, Aug. '48.

BOOK ABSTRACTS AND REVIEWS

Treatment of Heart Disease. By William A. Brams, M. S., M. D., Ph. D., Associate Professor of Medicine, Northwestern University Medical School, and Attending Physician, Michael Reese Hospital, Chicago. Cloth. Price, \$3.50. Pp. 195, with illustrations. Philadelphia: W. B. Saunders Company, 1948.

This book was written primarily for the medical student and general practitioner to meet the need for a systematic and practical guide in the treatment of heart disease. The book contains fourteen chapters. The first chapter deals with pharmacologic actions of drugs used in the treatment of heart disease. The other chapters are devoted to the treatment of the various types of heart disease, with chapters on Heart Disease in Pregnancy and Surgery and Heart Disease.

In the treatment of the various types of heart disease, the drugs used and the dosages are given.

The discussions of the several drugs and their use in the treatment of the various types of heart disease are brief and to the point. The author points out in the preface the information is based on his own experience and that no attempt is made to include descriptions of additional methods of treatment favorably reported by others. There is no discussion of the diagnosis or recognition of the various types of heart disease.

J. M. Barnes, M. D.

Clinical Laboratory Methods and Diagnosis. By R. B. H. Gradwohl M. D., D. Sc., F. S. T. M. & H. (London), Director of Gradwohl Laboratories and the Gradwohl School of Laboratory Technique; Pathologist to Christian Hospital; Director of Research Laboratories, St. Louis Metropolitan Police Department, St. Louis, Missouri; Commander, Medical Corps, United States Naval Reserve, Ret.; Fellow, American Public Health Association. Fourth edition. Cloth. Price, \$40.00. Pp. 3104, in three volumes, with illustrations and color plates. St. Louis, Mo.: The C. V. Mosby Company, 1948.

This greatly expanded three-volume edition of Gradwohl provides everything the title implies and a great deal more. At last there is available for the laboratory student, the teacher and the clinician a reference guide which is almost a library in itself, and which is as current as the latest isotope of phosphorus.

Especially fine for the people whose responsibility lies in the training of laboratory workers is the stress laid upon strict detail in technique and procedure as well as upon clinical interpretation. The latter should be of special interest to the diagnostician as well, since the assembling and description of the accepted laboratory procedures together with the interpretation in the field of diagnostic medicine have been faithfully accomplished.

The section on Hematology has been greatly enlarged to include in detail recent advances and comparative classifications of blood dyscrasias so important to the clinical laboratory diagnostician. Sections on Post Mortem Examination and Toxicology as well as the chapter on Electrocardiography stand out for the clarified way in which they are presented to both technician and clinician.

To Dr. Gradwohl's collaborators his readers will be grateful, especially to Dr. Pedro Kouri, of Havana, Cuba, who contributed the section on Tropical Medicine and to Dr. Omar Felsenfeld, of Chicago, who adds much to the application of Bacteriology to Clinical Medicine. In addition to the clear cut text, the books contain many diagrams, schematic drawings and photomicrographs (section on Protozoa) which leave very little detail for the microscopist to discover.

These books provide a laboratory guide and reference library in a most compact form for the detail they include, and should prove invaluable to those laboratorians who are pressed for time and find library facilities difficult to obtain. Moreover, this edition should prove valuable as an adjunct to the alert physician's library by reason of its scope which embraces problems in laboratory medicine all the way from metabolism to scorpionism.

Kathleen Knippel, B. A., M. T.

Practice of Allergy. By Warren T. Vaughan, M. D., Richmond, Va. Revised by J. Harvey Black, M. D., Dallas, Texas. Second edition. Cloth. Price, \$15.00. Pp. 1132, with 333 illustrations. St. Louis: The C. V. Mosby Company, 1948.

Ever since it first appeared in 1939, Dr. Vaughan's book has been used extensively by teachers, practitioners and students in the field of allergy. By many it has been considered the outstanding work in its field.

At the time of his sudden death in 1944 Dr. Vaughan was preparing a second edition and the publishers were fortunate in obtaining the services of Dr. Black to carry on from that point.

The new or second edition is much the same as the first in format and general appearance. However on close examination one finds many changes. Out of date material has been deleted and new concepts and ideas and materials have been added. There is nothing in the book to indicate how much of the change is Dr. Vaughan's and how much Dr. Black's. The over-all effect is to strengthen the work and bring it up to date.

This book can be recommended to teachers, practitioners and students alike as textbook and guide.

Marion T. Davidson, M. D.

War, Politics and Insanity. By C. S. Bleumel, M. A., M. D., F. A. C. P., M. R. C. S. (Eng.). Cloth. Price, \$2.00. Pp. 121. Denver, Colorado: The World Press, Inc., 1948.

This short book, in which "the psychiatrist looks at the politician," is an attempt to examine war and politics in terms of their psychiatric implications. The author's thesis is that wars stem from the "abnormal mental makeup" of national leaders. He examines the quality of leadership and as a corollary discusses the psychology of the masses. He includes a chapter on "Dominance In The Animal World," which contributes nothing to the better understanding of a human problem so complex as that involved in personal and national aggression and domination. He proposes that a recognizable constellation of personality traits can be identified in the successful politician, the most important of which is the obsessive-compulsive trend. The latter, coupled with aggressiveness, he deems a threatening combination toward evil. He weights his evaluation of autocrats, dictators, kings and leaders of the past and present to fit his formulations and he fails to distinguish adequately the persistent pursuit of a goal from a psychasthenic drive. The dynamics of each are hardly identical.

In his last chapter, Dr. Bleumel proposes his own selective rather than elective government, to eliminate the obvious defects of our democratic system. It is highly doubtful that his plan would eliminate the threat of dominance and aggression. Certainly, it contains psychological and political flaws which might develop into as pernicious a threat as are those we must bear in the current system. This in no way detracts from his admirable if Utopian desire to improve the quality of our politicians. He does not suggest, however, what would induce the incumbents to legislate into effect the restrictions which he would impose on them.

Philip S. Bazar, M. D.

Medical Writing. The Technic and the Art. By Morris Fishbein, M. D., Editor, The Journal of the American Medical Association. With the assistance of Jewel F. Whelan, Assistant to the Editor. Cloth. Price, \$4.00. Pp. 292, with 36 illustrations. Philadelphia and Toronto: The Blakiston Company, 1948.

To those who edit medical papers, Fishbein's Medical Writing is a constant and useful companion, a court of last resort in many instances. All those who assay to write in the field of medicine might well possess it. The task of the manuscript editor would be an easier one were its principles followed.

"The material in the book has been developed as a result of handling thousands of manuscripts for the Journal of the American Medical Association and the various special periodicals published by the Association.

"Valuable and important suggestions have been well integrated in this new edition and helpful new suggestions are presented in the chapter on Indexing and the chapter on Illustrations."

There can be no difference of opinion with the publishers' view that "the book will be of service to physicians and writers in all scientific fields preparing articles ranging from the briefest report to a full treatise."

The format of the book leaves nothing to be desired and is a great improvement over the first edition.

Douglas L. Cannon, M. D.

A History of the Heart and the Circulation. By Fredrick A. Willius, M. D., M. S. in Med., Senior Consultant in Cardiology, Mayo Clinic; Professor of Medicine, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; and Thomas J. Dry, M. A., M. B., CH. B., M. S. in Med., Consultant, Section on Cardiology, Mayo Clinic; Associate Professor of Medicine, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota. Cloth. Price, \$8.00. Pp. 465, illustrated. Philadelphia and London: W. B. Saunders Company, 1948.

"In a systematic approach toward any project to advance knowledge in a field, it is axiomatic that intimate knowledge and understanding of the historical data pertaining to the field are essential, for, as Winston Churchill has said of history in general, the farther we can look into the past the farther we can look into the future." With the above remarks Dr. Donald C. Balfour, in the foreword to this volume, outlined the main reasons for this book. The authors have attempted to provide a history of the growth of knowledge about the heart and circulation from the earliest recorded data to modern times. It was their intent to assemble and organize all available historical data and to present it in somewhat of a chronologic manner. The authors have divided the material into chronologic groups along somewhat arbitrary lines but have still adhered as closely as possible to the natural cleavages of history. The order in which the material is presented is as follows: (1) Antiquity, beginning with the first available documents pertaining to the heart and circulation and extending approximately from 3000 B. C. to 1096 A. D.; (2) the Medieval Era, spanning the years from 1096 to 1453; (3) The Renaissance, covering the period from 1453 to 1600; (4) the seventeenth century; (5) the eighteenth century; (6) the first half of the nineteenth century; (7) the second half of the nineteenth century, and (8) the first quarter of the twentieth century.

A volume such as this is not intended to afford the practitioner with any immediate aid in his everyday problems and its appeal will be primarily to those whose interests lie in the field of cardiology and circulation and who desire a broader background for their present knowledge. Because this volume will afford such a broad historical background it must be regarded as a valuable addition to the literature relative to the heart and circulation.

J. M. Barnes, M. D.

Psychobiology and Psychiatry. By Wendell Muncie, M. D., Chairman, Medical Advisory Board, Seton Institute, Baltimore, Md.; Associate Professor of Psychiatry, John Hopkins University; Consultant in Psychiatry, U. S. V. A. Cloth. Price, \$9.00. Pp. 620, with 70 illustrations. St. Louis: The C. V. Mosby Company, 1948.

The second edition of this important book has not changed materially from its predecessor. The historical appendix of the first edition has been omitted, while the accretions of the vast psychiatric experience of the past nine years are included. The basic methodology of the Meyerian psychology remains unchanged, and Dr. Muncie has described this approach both as a reporter and a practitioner in a most erudite and comprehensive manner.

The book is divided into three parts. The first concerns itself with psychobiology, the study of normal behavior. Here, the author describes the formulations of Dr. Meyer, with their adherence to observable facts, and the biographical personality study based on the unitarian concept of the whole personality in action. It is this section which constitutes the exposition of Meyer's most valuable contribution to psychology and psychiatry. The exhaustive exploration of the biography and the evaluation of the assets, defects and potentialities of the personality study plan should be an invaluable aid in psychiatric training, no

matter into which school the student may gravitate.

The second portion of the book is devoted to abnormal behavior or psychopathology and psychiatry. The examination of the psychiatric patient is well outlined and its neurological portion, which is generally neglected in most texts, receives thorough treatment. Each disorder is well illustrated by excellent case resumes from the Henry Phipps Clinic and briefly discussed in psychobiological concepts. Meyerian classification is not emphasized and those of Kraepelin, Freud and the U. S. Army are supplied alongside to reduce any confusion that this lack of uniformity might generate for the reader.

The third section is consumed in a discussion of treatment. The psychobiologists depend, in the main, on what Dr. Muncie claims Dr. Meyer called "Distributive Scrutiny." Is there any significance in the substitution of "scrutiny" for "analysis?" Other therapeutic aids are described without too much evidence of the partisanship which Dr. Muncie decries in his preface to this edition.

This is unquestionably one of the best of the available texts in psychiatry. It is highly readable, well organized for study, and will appeal to those students who prefer to tread the middle-of-the-road in psychiatric thought.

Philip S. Bazar, M. D.

AMERICAN MEDICAL ASSOCIATION NEWS

YOUNG DOCTORS OWE SERVICE TO ARMED FORCES, SAYS EDITORIAL

Thousands of young doctors educated at government expense in wartime training are now obligated to volunteer for service in the armed forces, points out an editorial which appears in a recent issue of *The Journal of the American Medical Association*.

A critical shortage of military doctors is expected to exist as soon as men are inducted under the new Selective Service Act, the editorial says.

Although the act does not include a draft of doctors, President Truman "may again insist on such a draft," if enough doctors do not volunteer to meet the needs of the services, the editorial says.

As many as 6,000 doctors may be needed, the majority by the army and the air force, *The Journal* estimates.

The A. M. A. Council on National Emergency Medical Service, under Dr. James C. Sargent of Milwaukee, chairman, "is giving careful consideration to the relationship of

the American Medical Association to military needs," the editorial says.

"Representatives of the Association are conferring with other governmental agencies—the public health services, the Veterans Administration, and all of the other federal activities that have a need for doctors—regarding the supply of physicians for civilian defense."

The editorial follows in part:

"The situation today in all of the armed forces is, as has here been emphasized again and again, exceedingly critical. The exact number of physicians needed during the coming year may well approach 6,000, of whom the majority would be for the army and air force and the rest for the navy. The supply of professional personnel now apparent is deficient. Unless the rate of procurement of officers is rapidly—and substantially—increased and maintained, the ability to provide medical care under the Selective Service Act is jeopardized.

"The congress failed to include in the Selective Service Act a specific draft of doc-

tors; but President Truman has recalled the congress and conceivably may again insist on such a draft if the needs of the armed forces are not met by voluntary offers of service from the medical profession.

"Most of the young men who have given military service are not inclined to volunteer. There are, however, thousands of young men who were educated at government expense in the A. S. T. P. and the V-12 programs and who did not render actual military service. They owe an obligation to the government and to the people of the United States.

"In their procurement programs for regular officers, the medical departments of the armed forces, by cooperation with the specialty training boards, are able to provide assistant residences and residencies in both military and civilian installations, which will be accredited by the certifying boards following satisfactory completion of the service. These positions should appeal particularly to the young men who have graduated in recent years, since they offer opportunity for training in a specialty with an adequate income, housing, and maintenance not available through any other source.

"The procurement programs of the army and navy have fallen far short of producing the required professional personnel. Unless the congress provides additional incentives to make such services appeal more definitely to physicians, medical technicians, nurses, and other medical personnel, a real crisis will develop.

"Many men who served during World War II are bitter in their recriminations as to faults which they observed in utilization of the medical profession. Some of these faults were so obvious that military leaders have already taken steps to bring about correction.

"One of the main objections related to the employment of doctors and dentists in work that was administrative rather than professional. The office of the surgeon general of the army now gives assurance that every doctor and dentist has been removed from every administrative position that does not require a professionally trained man.

"Another objection was the lack of continuous graduate training and the opportunity to advance in a medical specialty while rendering service in the army. The army med-

ical department has recognized the inestimable value to that department of civilian professional consultants. These are now used not only in the graduate education program but also in maintaining the highest medical standards in the care of military personnel.

"During World War II, one of the most serious complaints related to wastage of physicians by maintaining in close contact installations of the army, the navy, and the air forces with complete staffs of specialists, who, in many instances, did not have enough actual work to occupy their time. Now a detailed study has been, and is continuing to be, made to determine where it is possible to combine certain medical activities and to eliminate others and thus to abolish waste of professional personnel.

"The army, navy, and air force are cooperating in an endeavor to economize in personnel by using air evacuation as a replacement for ship evacuation of the wounded. If hospital ships, with their attending medical personnel, can be eliminated in whole or in part, a saving may be obtained."

CHILDREN ATTAIN MATURITY DURING RANGE OF YEARS

Parents who think their adolescent children are not normal because they are larger or smaller than companions of the same age have little cause for worry, according to Joseph A. Johnston, M. D., Pediatrician-in-Chief of the Henry Ford Hospital, Detroit, Mich.

Writing in the August 28th issue of The Journal of the American Medical Association, Dr. Johnston points out that children attain maturity during a range of years and that each child has his own inherited "time schedule." For example, in a schoolroom of normal 13 year old girls, gains in height during the previous year may vary from one to four inches and gains in weight from six to 30 pounds, he says.

Diet of adolescent children, however, should cause concern, he points out. During the year when a child is growing rapidly he needs unusually large amounts of protein, calcium, and vitamin D, Dr. Johnston says.

These needs of the adolescent will be covered when the daily diet includes the items on the following list prepared by Dr. Johnston:

One quart of milk, one egg, one serving of cereal and three slices of bread, two large servings of meat, fish, or cheese, one serving of a simple dessert containing egg and milk, one serving of soup containing milk, and 800 units of vitamin D.

In the average youngster, Dr. Johnston found, instinct is a reliable guide to the amount of meat which should be eaten.

"The increase in tuberculosis in the adolescent years has been associated with some change which lowered resistance at this age. Observations lend further support to the need for supplying liberally the increased needs for protein, calcium, and vitamin D of this period of growth," he comments.

"The fact that the average obese adolescent is above average height, shows advanced bone age, and is in the advanced group intellectually, although retarded in his social and emotional maturation, are all sound arguments against attributing the excess weight to thyroid deficiency. The management of the obese child includes more than the attempt to limit his caloric intake; it involves an assessment of his emotional and social difficulties and the frank facing of the too frequently found overdependent relationship between parent and child."

ANTIVIVISECTIONISTS THREATEN MEDICAL RESEARCH

Sincere but misguided people who support antivivisection and the shrewd promoters who make a living from the movement are a real threat to medical research, points out an editorial which appears in the current (September 11) issue of *The Journal of the American Medical Association*.

The editorial follows in part:

"The antivivisectionists love publicity pointed to their angle, but screams of anguish and tearing of hair will soon be reflected in the antivivisectionist publications after the recent (July 24) article in the *Saturday Evening Post*, 'They're Trifling with Your Life.'

"This article designates the antivivisectionists as 'an obscure cult of sincere but misguided Americans—spurred by shrewd promoters—(which) now threatens to wipe

out the techniques of medical research that have saved millions from horrible deaths.'

"The vast majority of antivivisectionists are apparently sincere but misguided. They are kindly people who love animals perhaps too well. Their noble sentiments make them easy prey to the shrewd promoter who makes his living by claiming that animals in laboratories suffer needless pain, and that money is needed to stop animal experimentation. The people who support the antivivisectionist movement have never been in laboratories and have only the vaguest concept of what constitutes scientific research.

"The combination of 'sentimental money,' as the gifts to antivivisectionism have been termed, plus shrewd promotion, embodies a real threat to medical research. Year after year the antivivisectionists have had bills introduced into the Congress of the United States and into state legislatures 'exempting' the dog from service in the medical research laboratory. Such bills, one of which came perilously near enactment in a New York legislature, serve as publicity springboards even when they fail of enactment. If the so-called dog bill should ever go through the Congress in a preadjournment legislative jam the event would be a catastrophe. Although these bills in the Congress apply only to the District of Columbia, they would serve, if passed, as patterns to be copied in state legislatures.

"In addition to attempting to effect state and national legislation, the antivivisectionists, by creating uproar and emotional tension, have succeeded in diverting many stray dogs which used to be delivered to medical schools to the gas chamber at the dog pound, thus increasing the difficulties experienced by medical schools in procuring dogs for study. Finally, the antivivisectionists admit that the dog is used as their symbol because of mankind's universal love for dogs. If they once succeed in excluding dogs from use for medical research they will proceed to broaden this ban to include, first cats, and gradually other animals.

"The *Saturday Evening Post* has done an important and significant service to the health of the American people in exposing the threat of antivivisectionism."

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SOME CONSIDERATIONS OF PERITONITIS

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During the past ten years there has been a gradual lowering of the mortality rate in peritonitis due to perforation of a hollow viscus. Much has been accomplished by educational programs for both lay and professional groups toward the goal of prompt surgical intervention in early cases of acute appendicitis. The improved mortality rates, however, have not been correlated with any comparably dramatic lessening of morbidity. The patient with generalized peritonitis is still extremely sick and the patient who complains bitterly of epigastric pain is still apt to die. Important advances have been recorded in the technical principles of surgical management, intestinal decompression, electrolyte balance, protein depletion and chemotherapy. Much of this information is patently incomplete and still controversial. Hence, it is important to discuss these matters and attempt to apply the available information to the clinical problem.

In the etiology of peritonitis, three factors are of especial significance: (1) focus of necrotic tissue, (2) an internal intestinal fistula, and (3) fecal contamination of the peritoneal cavity. Experience in the management of acute appendicitis has proved the wisdom of excision of necrotic tissue. The military experience with wounds of the colon has emphasized again the necessity of exteriorizing a loop of questionably viable

bowel. In all of wound management, this principle is the one least subject to controversy. Surgeons with field hospital experience were also impressed by the secondary significance of fecal contamination of the peritoneal cavity. It was not at all unusual to record a completely uncomplicated convalescence after removal of gross fecal particles from the abdomen at the time of initial surgical treatment. Conversely, the continuing leakage of intestinal contents into the peritoneal cavity was constantly associated with progressive peritonitis. These simple observations, amply demonstrated by the great volume of casualties, need no further confirmation. The lessons learned are applicable to civilian problems in many ways. The vascularity and integrity of any intra-abdominal anastomosis must be beyond question. Vascularity is especially a problem in anastomosis of the colon and it seems reasonable to abandon continuous sutures in colon anastomosis in favor of non-hemostatic interrupted sutures. Further, the demonstrated insignificance of transient fecal contamination in the patient receiving adjuvant chemotherapy would seem to broaden the usefulness of open, instead of aseptic, technics for anastomosis. Indeed, the improved methods of intestinal preparation and the greater certainty of precise anastomosis with open technics have already led many surgeons to abandon the "aseptic" technic of closed anastomosis.

Intestinal decompression, as developed by Wangensteen and Paine, is perhaps the most commonly employed therapeutic adjuvant

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in the management of impending or established peritonitis. The surgical profession is especially indebted to Peters¹ for emphasizing a common abuse of this method. Recalling earlier experiments in dogs with pyloric obstruction, this investigator directed attention to the secretagogue effects of fluids introduced into the stomach. The dog with pyloric obstruction and free access to water drinks copiously, vomits profusely, and succumbs early to dehydration and hypochloremic alkalosis. On the other hand, denial of oral intake to the dog with pyloric obstruction permits survival comparable to a normal dog deprived similarly of fluid and food. The fairly common practice of allowing patients to drink fluid to allay thirst or to "keep the tube open" is all too frequently provocative of excessive gastric secretion and responsible for hypochloremic alkalosis. On our service, the institution of intestinal decompression by nasal intubation is always accompanied by the order for "nothing by mouth." The average daily output of gastric secretions on this regimen should not exceed 300 cc. To obviate obstruction or plugging, the tube should have a fairly large lumen (usually a No. 18 F.). Unquestionably, there would be less stimulus to gastric secretion if the tube itself were not in the stomach. In some patients this is practical and desirable, but it is not practical in the patient who swallows air. Aerophagia, or "cribbing," has invalidated the routine use of the Miller-Abbott tube as the sole method of decompression. If the Miller-Abbott tube is necessary, then gastric suction should be established through the other nostril as soon as the Miller-Abbott tube has passed beyond the duodenum. Once the intestine has been deflated, gastric suction alone has, in our experience, proved adequate in the prevention of recurrent ileus.

In the matter of fluid and electrolyte balance, one of the important principles of Gamble's theory of renal regulation is frequently overlooked. A normally functioning kidney is an essential prerequisite to selective function. Hence, in the dehydrated patient, initial fluid replacement must have as its objective restoration of urinary flow. This is accomplished by the intravenous in-

fusion of a 5 per cent solution of glucose in distilled water without sodium chloride. The problem has been somewhat further complicated by the demonstration of Collier and associates² that the kidney retains sodium for forty-eight to seventy-two hours following such insults as anesthesia and surgical operation. Obviously, the intravenous administration of saline solutions has been overdone in the past. In most patients it is desirable to establish a base line of the plasma-sodium concentration by indirect reference to the carbon dioxide combining power and the chloride concentration. Renal function should be reestablished by the administration of water made isotonic with glucose. Once there is an adequate urinary output, indicated replacement of sodium may be undertaken. After operation in the patient with restored plasma-sodium values, such information as to the need for intravenous saline solution may be obtained by qualitative tests of urine specimens for chloride by precipitation with a 10 per cent solution of silver nitrate. Frequently, only a trace will be excreted for the first two or three days, during which time the daily allotment of sodium chloride may be 5 gm. or less. Conversely, as the kidney recovers there may be sodium diuresis demanding vigorous replacement of sodium chloride. In such patients it is well to check the plasma-sodium value again on the fourth or fifth postoperative day as a further guide to therapy.

Even more recently the problem of potassium balance has seemed important. In conditions of health, this ion is usually intracellular and of importance in maintaining the volume of intracellular water. It may be displaced from this intracellular position under a variety of circumstances, especially during severe dehydration and tissue destruction. In the present state of our knowledge, potassium imbalance involves fluid balance, protein replacement and surgical management of injured tissues. Under these circumstances there are few surgeons who are willing to undertake therapeutic programs designed specifically to restore disordered potassium balance.

Increasingly it has become recognized that progressive depletion of body protein is

1. Peters, J. P.: Symposium on Fluid and Electrolyte Needs of Surgical Patient; Structure of Blood in Relation to Surgical Problems, *Ann. Surg.* 112: 490-497 (Oct.) 1940.

2. Collier, F. A.; Campbell, K. N.; Vaughan, H. H.; Iob, L. V., and Moyer, C. A.: Postoperative Salt Intolerance, *Ann. Surg.* 119: 533-542 (April) 1944.

prejudicial to host resistance and wound healing. The studies at Bellevue by Richards³ have demonstrated the rapid loss of plasma volume associated with peritoneal suppuration. The demand for hemoglobin and red blood cells has long been recognized. The experiments of Madden and co-workers⁴ strongly suggest that methods of parenteral alimentation with protein substrates are of limited usefulness in the replenishment of depleted tissue protein reserves. We have largely abandoned the use of plasma and casein derivatives as a means of intravenous feeding. Instead, we depend upon whole blood transfusions and glucose solutions. If the total circulating red blood cell mass be maintained, there is clinical evidence that already depleted tissue protein reservoirs can still yield protein for the purposes of wound healing in an otherwise optimally coordinated program of management.⁵ Important in this regard is the nitrogen-sparing effect of carbohydrate. The daily intake of glucose must provide sufficient calories to reduce to a minimum the use of endogenous amino acids for gluconeogenesis. Further studies are needed in this field to determine the optimal daily dose of glucose. Especially desirable are studies designed to evaluate the optimally tolerable concentration of glucose for intravenous injection. The urge to provide adequate caloric intake must be tempered by due regard for the dehydrating effect of hypertonic solutions of glucose and the vascular overloading from excessive fluid administration.

Among important contributions to the reduced mortality rate in peritonitis are the advances in the management of phlebotrombosis and thrombophlebitis. They are mentioned only to record my strong personal preference for venous ligation in the prophylaxis of pulmonary infarction. The patient with peritonitis is not justifiably treated with anticoagulants because of the

high incidence of hemorrhage from open wounds and around inlying nasal and urinary catheters. Phlebotrombosis has occurred in some of our cases when the prothrombin time had already been reduced by toxic hepatitis to levels usually established with dicumarol in the attempt to prevent intravascular clotting.

Perhaps no aspect of the treatment of peritonitis is as controversial as chemotherapy. Certainly the results are not dramatic as regards the effect on fever; yet the value of adjuvant antibacterial therapy seems well substantiated. The main difficulty lies in the selection and dosage of drug or drugs in combination. A rational plan of treatment may be predicated on any one of three types of experience: (1) animal experiments, (2) bacteriologic considerations, and (3) clinical results. To a certain extent, the evidence from each of these experiences is conflicting. It is pertinent to review this evidence.

The *animal experiments* are perhaps the most satisfactorily controlled group of observations. In 1938, Bower and associates⁶ reported upon the prontosil treatment of spreading peritonitis in dogs. Experimental peritonitis was initiated by mass ligation of the blood supply to the appendix and surgical opening of the appendix. About 70 per cent of the control animals usually die in this experiment. These authors reported that prontosil was effective in reducing this mortality. Harvey and co-workers,⁷ who repeated these experiments, found that the systemic administration of sulfanilamide was superior to its local administration. Murphy, Ravdin and Zintel,⁸ who performed similar experiments with penicillin, obtained significant but incomplete protection of the animals. In a recent series of experiments, Zintel⁹ reported results in three groups of dogs: 94 per cent of the control

3. Richards, D. W., Jr.: The Circulation in Traumatic Shock in Man. Harvey Lectures, Feb. 17, 1944; Bull. New York Acad. Med. 20: 363-393 (July) 1944.

4. Madden, S. C.; Woods, R. R.; Shull, F. W.; Remington, J. H., and Whipple, G. H.: Tolerance to Amino Acid Mixtures and Casein Digests Given Intravenously, J. Exper. Med. 81: 439-448 (May) 1945.

5. Lyons, C., and Mayerson, H. S.: The Surgical Significance of Hemoglobin Deficiency in Protein Depletion, J. A. M. A. 135: 9-10 (Sept. 6) 1947.

6. Bower, J. O.; Burns, J. C., and Mingle, H. A.: Prontosil and the Treatment of Spreading Peritonitis in Dogs, J. Lab. & Clin. Med. 24: 240-244 (Dec.) 1938.

7. Harvey, H. D.; Meleney, F. L., and Rennie, J. W. R.: Peritonitis; Studies in Peritoneal Protection with Particular Reference to Action of Sulfonamide Drugs in Experimental Peritonitis, Surgery 11: 244-260 (Feb.) 1942.

8. Murphy, J. J.; Ravdin, R. G., and Zintel, H. A.: Use of Streptomycin in Experimental Peritonitis, Surgery 20: 445-451 (Oct.) 1946.

9. Zintel, H. A.: Streptomycin in Peritonitis, Am. J. Med. 2: 443-448 (May) 1947.

animals died whereas 74 per cent of the animals treated with streptomycin died. Nine animals treated with a combination of penicillin and sulfadiazine died. Although this is suggestive evidence, it is far from convincing in statistical evaluation. The most satisfactory experiments for this type were reported only recently. Silvani¹⁰ modified the experimental technic by removing the omentum, and incidentally the spleen, at the time of ligation and opening of the appendix. Under these conditions, all the control animals died and neither streptomycin nor sulfadiazine saved any of the dogs. Furthermore, streptomycin or sulfadiazine did not alter the bacterial flora of the peritonitis significantly. Penicillin, in doses equivalent to 1.5 million units daily for man, significantly saved life in 90 per cent of the animals treated. It was noted that the penicillin treated animals showed only a gram-negative bacterial flora and that this disappeared spontaneously. No significant benefit was noted from combining streptomycin or sulfadiazine with penicillin in this series of experiments. It was concluded that massive doses of penicillin were dramatically effective when given early in the treatment of impending peritonitis.

The *bacteriologic* evidence for the choice of an antibacterial agent is especially confusing. Numerous clinical studies, most recently by Altemeier,¹¹ have shown that the coliform bacteria are of little or no significance in the morbidity or mortality of peritonitis. I concur in this opinion on the basis of similar studies in peritonitis and in wound suppuration. However, it must be pointed out that, of all the organisms responsible for peritonitis, none have any initial virulence in pure cultures tested by guinea pig inoculation. Nevertheless the coliform bacilli are the only ones with which enhancement of virulence has been noted after rapid animal transfer in the experiments of Meleney and associates.¹² The significance

of this observation is partially invalidated by Owen's demonstration¹³ of the unique susceptibility of the guinea pig to coliform as well as other bacterial infections. Even though conflicts exist, most students of this phase of the problem agree that the colon bacillus has little primary significance as a pathogen in peritonitis. But the coliform bacilli are not easily dismissed. It has been shown that certain strains of these organisms produce an enzyme, penicillinase, capable of inactivating penicillin. The demonstration of this enzyme is largely a laboratory experiment. The evidence for the clinical significance of penicillinase is not too substantial and it remains to be demonstrated that clinically resistant infections are due solely to penicillinase effects.

The primarily important pathogens in fecal peritonitis are the proteolytic bacteria, chiefly *Clostridium*s and certain groups of the streptococci. Streptomycin is an unsatisfactory drug for the treatment of infections due to these bacteria. In the first place, streptomycin has no antibacterial effect upon *Clostridium*s. Secondly, although streptomycin does have an antistreptococcal effect, it has been learned that individual members of a given strain of bacteria have a widely variable susceptibility to the drug. The result of this variation in susceptibility is the rapid outgrowth of resistant bacteria. With penicillin there is definite antibacterial action for the *Clostridium*s, but the requisite dosage is much larger than is required by other more susceptible infections. In studies conducted in Italy during the war, Rustigian and I¹⁴ demonstrated that both *Clostridium welchii* and *Clostridium sporogenes* required dosage in the neighborhood of 100,000 units every two hours to build up an effective blood concentration in man for these organisms. Penicillin is superior to streptomycin in the treatment of most gram-positive infections because it has a more uniform antibacterial effect upon all members

10. Silvani, A. L.: Reported at Fundamental Forum on Surgical Problems, American College of Surgeons, 1946.

11. Altemeier, W. A.: The Bacterial Flora of Acute Perforated Appendicitis with Peritonitis, Ann. Surg. 107: 517-528 (April) 1938.

12. Meleney, F. L.; Harvey, H. D., and Jern, H. Z.: Peritonitis; the Correlation of the Bacteriology of the Peritoneal Exudate and the Clinical Course of the Disease in 106 Cases of Peritonitis, Arch. Surg. 22: 1-66 (Jan.) 1931.

13. Owen, C. R.: Experimental Study of Bacteriology of Perforation Peritonitis, Surgery 7: 37-46 (Jan.) 1940.

14. (a) Rustigian, R., and Cipriani, A.: The Bacteriology of Open Wounds, J. A. M. A. 133: 224-229 (Jan. 25) 1947.

(b) Lyons, C.: Chemotherapy in the Management of Wounds, J. A. M. A. 133: 215-216 (Jan. 25) 1947.

of a given strain of bacteria. Even so, there is usually a small but definite percentage of initially resistant organisms in an otherwise susceptible culture. In most early infections these initially resistant bacteria are so few in number as to be relatively inconsequential. They fail to constitute a minimal infective dose and represent a residuum easily disposed of by the body. Thus, in penicillin therapy, resistant bacteria are largely a problem when there are unusually large numbers of bacteria present. In peritonitis, this is especially a feature of the later phases of suppurative infection. Under such conditions, it is reasonable to combine chemotherapy and antibiotic therapy in the hope that the bacteria resistant to one drug will be susceptible to another.

Clinical experience in the treatment of peritonitis has favored larger doses of penicillin—100,000 units every two hours as suggested by Crile and Fulton.¹⁵ We have extended this dosage up to 1,000,000 units every two hours without recognizing any further enhancement of the effect with lesser dosage. Hirshfeld and co-workers¹⁶ concluded from their experience with 12 cases of peritonitis treated with streptomycin that the results, in general, were not spectacular. In the National Research Council's report on streptomycin Keefer and associates¹⁷ recommended that streptomycin, alone or in combination with penicillin, be continued experimentally in a dosage of 2 Gm. a day for five days. In the Council report, there were 12 deaths in a series of 53 patients and the survival rate was 85 per cent in appendiceal peritonitis. Pulaski, who has had extensive experience in the Army, concluded that streptomycin in a dosage of 3 Gm. daily has given results comparable to penicillin therapy with 25,000 units per hour. A further observation of Pulaski is an apparently beneficial effect attributable to a combina-

tion of penicillin and streptomycin in the treatment of localizing foci of suppurative peritonitis.¹⁸

Recent experiments in the laboratory have emphasized the importance of the antibacterial effects of penicillin upon gram-negative bacteria.¹⁹ These are definite, but the effective concentration of penicillin is considerably higher than is used for the treatment of gram-positive infections. Of especial significance is the fact that a combination of penicillin, streptomycin and sulfonamides has a dramatically greater antibacterial effect than any combination of two drugs alone. Under these circumstances, the effective dosage of penicillin is no greater than that used for gram-positive infections.

Since last fall we have used the three drugs in combinations of various dosages for the treatment of all the more serious types of peritonitis. At the present time our dosage for adults is:

500,000 units of penicillin { every eight hours
0.5 Gm. streptomycin
2.5-5.0 Gm. sodium sulfadiazine daily

This dosage, in conjunction with appropriate surgical management and supportive therapy, seems now to be stabilized. The temperature still requires three to five days to return to normal, but the patient's clinical course belies the temperature chart. The abdomen becomes soft within eighteen to twenty-four hours and peristalsis, with passage of gas, returns within forty-eight hours. The patient looks and feels convalescent. It is our impression that residual abscesses have resorbed spontaneously with greater frequency than we should have expected.

This same program of antibacterial therapy has been adopted in the postoperative management of patients having gastrointestinal resection. Primary bacterial peritonitis has not occurred in these patients. This has been so striking that we now practice early reopening of any abdomen showing the least sign of peritoneal irritation

15. Crile, G., Jr., and Fulton, J. R.: Appendicitis with Emphasis on the Use of Penicillin, U. S. Nav. M. Bull. 45: 464-473 (Sept.) 1945.

16. Hirshfeld, J. W.; Buggs, C. W.; Pilling, M. A.; Bronstein, B., and O'Donnell, C. H.: Streptomycin in Treatment of Surgical Infections; Report of Experiences with Its Use, Arch. Surg. 52: 387-401 (April) 1946.

17. Keefer, C. S.; Blake, F. G.; Long, P. H.; Marshall, E. K., Jr., and Wood, W. B., Jr.: Streptomycin in the Treatment of Infections; A Report of One Thousand Cases, J. A. M. A. 132: 4-11 (Sept. 7) 1946.

18. Pulaski, E. J., and Seely, S. F.: Further Experiences with Streptomycin Therapy in United States Army Hospitals, J. Lab. & Clin. Med. 33: 1-14 (Jan.) 1948.

19. Pulaski, E. J.; Connell, J. A.; Kowalczyk, A., and Seeley, S. F.: Streptomycin in Surgical Infections; VII. Non-Pulmonary Tuberculosis (Lymph Nodes, Urinary Tract, Bone and Peritoneal). (In press.)

during the postoperative course. Lives have been saved by thus recognizing early infarctions or necrosis of the omentum, bowel or suture line.

This last concept is the thought that I should like to leave uppermost in your minds. Patients today do not die solely of overwhelming peritonitis of primary bacterial origin. There is always a concomitant

focus of necrotic tissue or an internal fistula leaking digestive juices into the peritoneal cavity. These lesions are, in the main, accessible to surgical correction. Rare indeed is the patient who is too sick to be operated upon if the total circulating blood volume is restored preoperatively and maintained at a standard value by adequate blood transfusion.

SOME MEDICAL COMPLICATIONS OF PREGNANCY

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It is well known and often repeated that pregnancy produces a strain on every organ and system in the body, especially the heart, and kidneys and the endocrine and central nervous systems. Occasionally the added strains are more than a diseased organ can bear and serious consequences follow; but one is often amazed to see the additional load that even a damaged organ can bear in pregnancy. During the last few years we have been impressed by the number of patients who have been told that, due to previous or co-existing disease, pregnancy would either cripple them further or, in some cases, actually cause death; but, when carried to term with successful pregnancies, most of these patients have shown no ill effects. Let us briefly discuss the ability of some of these organs or systems to bear the added load of pregnancy, giving special mention to organs damaged by previous disease; and let us illustrate this ability with a few case histories of patients who presented rather unusual complications along with their pregnancies.

THE CARDIOVASCULAR SYSTEM

It is not unusual for a woman with an organic heart disease to present herself for obstetric care. Patients with cardiac disease frequently tax even the keenest obstetric judgment. As early as possible in pregnancy one must predict the heart's ability to carry its additional burden through the entire pregnancy and through the additional

cardiac strain of labor. As an aid in this prognosis the classification of heart disease as promulgated by the New York Heart Association is a definite help. This is a simple classification, based on the functional capacity of the heart, and it requires no complicated laboratory work—only close, clinical observation of the patient:

Class One includes patients with a heart lesion who have no limitation of physical activity. They are comfortable at rest and show no cardiac symptoms on activity.

Class Two includes patients with slight to moderate limitation of physical activity. They are comfortable at rest but ordinary physical activity causes undue fatigue, dyspnea, or anginal symptoms.

Class Three includes patients who are comfortable at rest but *any* physical activity causes dyspnea, fatigue, or anginal symptoms.

Class Four includes patients who have some symptoms of cardiac decompensation even at rest, and these patients are unable to carry on any physical activity.

The greatest fear concerning a patient with cardiac disease who becomes pregnant is that decompensation may obtain either during pregnancy or labor, or immediately postpartum. In general, one can predict the heart's ability to carry its additional load by classifying the patient into one of the groups mentioned above: Practically all of *class one* patients can go through pregnancy and labor without decompensation. Also, practically all of *class two* patients can withstand the added cardiac demands of preg-

nancy and labor. In a series of 84 therapeutic abortions at Columbia University Hospital, none was done for either class one or class two patients. Almost all cardiac patients who fit into *class three* are able to go through pregnancy and labor without decompensation but they require closer observation than do those in classes one and two. *Class four* patients should never become pregnant because the likelihood of decompensation is ever present. If decompensation obtains in the first trimester, therapeutic abortion is usually the only means of escape. If decompensation does not set in until the second or third trimester, the patient should be carried to term with much precaution and close observation.

The treatment of a pregnant cardiac was recently summed up as follows: "When a female with chronic heart disease becomes pregnant, certain extra-precautionary measures must be taken. She must take longer rest periods than the normal pregnant female. The length of these rest periods must increase as pregnancy progresses. She must be advised to give up a certain amount of her house work and never to become fatigued. She must guard herself carefully against any intercurrent infection and her physician is obliged to treat any illness energetically and enthusiastically without delay ... Above all, there must be a complete understanding and wholehearted cooperation between the physician, the patient, and her family. No cardiac should be delivered at home except in rare emergencies. Many unfavorable and borderline cases, if properly handled, will terminate uneventfully. However, no matter how favorable the prognosis in some cardiac females, they may decompensate during their pregnancy ..." In addition, the following rules can be applied to the management of the pregnant cardiac: 1. Watch for and treat anemia. 2. Forbid excessive weight gain. 3. Treat the patient as a cardiac, primarily. 4. Constantly watch for signs of dyspnea, cyanosis, basilar rales, edema. 5. Let the patient have as short a second stage of labor as possible, using outlet forceps whenever indicated. 6. Never use spinal anesthesia but use local infiltration anesthesia whenever possible.

The cardiac sequelae of rheumatic fever are by far the most frequent cardiac compli-

cations seen in obstetric patients but the following case illustrates one of the more unusual types of heart disease that may be associated with pregnancy: This thirty year old woman was first seen when three months pregnant, having been referred by her family physician for therapeutic abortion. All her life she had been aware of the presence of a heart lesion, but before one and a half years ago she had had no symptoms except occasional mild dyspnea. About 6 months previously, she became ill and was seen by an internist who made a diagnosis of subacute bacterial endocarditis, superimposed on a patent ductus arteriosus. His intensive therapy with penicillin apparently cured the endocarditis and later she was sent to a thoracic surgeon who operated upon her and ligated the ductus arteriosus. She became pregnant one month after the operation. Examination of the patient, when three months pregnant, revealed complete cardiac compensation with no dyspnea or tachycardia on ordinary activity. She was considered a class one patient and allowed to go to term. During the pregnancy special care was taken to insure that the patient did not develop anemia, and her physical activities were greatly restricted. After a short labor at term, an eight and a half pound baby was delivered by outlet forceps, using local anesthesia. At no time did the patient show signs of dyspnea, angina, or unusual tachycardia. Here, then, was a patient who had had two serious heart lesions and one heart operation. However, she was able to withstand the cardiac demands of pregnancy and labor with no signs of cardiac distress. To the best of our knowledge no other similar case has been presented in the literature.

CENTRAL NERVOUS SYSTEM

In considering diseases of the central nervous system, we shall confine our discussion to epilepsy. It was formerly believed that pregnancy produced a beneficial effect on epilepsy and actually diminished the frequency of epileptic seizures. This belief has now been discarded but there is no real evidence that pregnancy has a deleterious effect on epilepsy. Some authorities advocate therapeutic abortion on epileptics because of the likelihood of the disease being transmitted to the child. DeLee stated that there was only one chance in forty of

epilepsy being inherited if one of the parents is normal. Of the 84 therapeutic abortions done at the Columbia University Hospital, only four were done because of epilepsy and these only after recommendation by the attending neurologist.

The treatment of a pregnant woman with epilepsy is no different from the treatment of the same woman when not pregnant except that closer observation and more intensive treatment are required. It is difficult to understand why one would advise termination of pregnancy in a patient with Jacksonian (acquired) epilepsy but the following case illustrates an erroneous opinion advocating termination of pregnancy in such a case: This twenty-two year old patient was neurologically normal until she developed an abscess of the right frontal lobe of the brain in 1945. She was then treated by a competent neurosurgeon and the brain lesion healed completely following surgical drainage. After healing, she began having petit mal and occasional grand mal seizures. The seizures were only partially controlled by dilantin sodium. She was first seen by us when two months pregnant. At that time she brought a letter from her neurosurgeon, strongly advocating that the pregnancy be terminated because he believed, first, that the pregnancy would make her epilepsy worse and, second, that she would be unable to care for her child. He urged that the uterus be emptied at once.

After a careful examination and history on this patient, it was felt that she would be able to tolerate pregnancy with no great difficulty. Treatment of the epilepsy was continued as before with both dilantin sodium and phenobarbital. The patient was repeatedly assured that she would be able to bear a child successfully. Throughout her entire pregnancy, she had fewer and less severe seizures than before. At term, because of pelvic dystocia, she was delivered by cesarean section and tubal sterilization was performed. Since delivery her seizures have been occurring approximately as frequently as before pregnancy—certainly no more frequently. Her child is healthy. Here, then, was a patient who had had a rather severe brain lesion which, in healing, left the patient with Jacksonian epilepsy. But careful study of the patient and constant observation during pregnancy enabled her

to have a healthy pregnancy and a successful delivery. We feel that our decision to carry this patient to term was a wise one, and that there was every reason why this patient should have been allowed to bear at least one child.

DISEASES OF METABOLISM

Many more diabetics now live to the child-bearing age than in previous years and, as obstetric patients, they present peculiar problems. Proper therapy with insulin and dietary management have brought about some improvement in the ability of a diabetic patient to avoid complications in pregnancy, but, more than the normal patient, they are prone to develop toxemia; they have abnormally large babies, and the babies often die at or near term. Priscilla White, in Boston, has shown this weakness to be due, in part, to an imbalance of sex hormones during pregnancy, primarily an excess in chorionic gonatropin with a deficiency of estrogen and progesterone. This hormonal imbalance occurs in 75% of pregnant diabetics. With large doses of estrogen and progesterone during pregnancy, along with otherwise good prenatal care, White has been able to reduce the incidence of toxemia to 5%, to increase the fetal survival rate to 90%, and to diminish the incidence of premature delivery to 5%. Similar improved results have also been reported by others.

White's plan for the dosage of progesterone and estrogen during pregnancy starts with 5 mgm. of each daily and increases progressively until, at term, the patient is receiving 30 mgm. of each daily. Also important in the management of the pregnant diabetic is restriction of sodium chloride and sodium bicarbonate, high protein diet, adequate elimination and rest, and four to eight grams of ammonium chloride daily should edema occur. Only very rarely is therapeutic abortion indicated in diabetics and then only in the event of uncontrollable cases. Pregnant diabetics will present themselves for care with increasing frequency in the future but metabolic diseases other than diabetes are sometimes encountered in pregnant women.

To illustrate a rather unusual case of altered metabolism, with pregnancy as a superimposed complication, let us present the following case: This twenty-two year

old white woman was first seen when four months pregnant. About three years previously she developed classic signs of hyperthyroidism and two years later a subtotal thyroidectomy was done. After this operation improvement was slight and six months later she was operated upon again and more thyroid tissue removed. Following the second operation the patient became more nervous than previously and later she was almost totally unable to control the movements of her arms and legs. At this time she came under the treatment of an internist. After advising her that most of her parathyroid glands had been removed at the second operation, he administered calcium and parathormone which relieved the patient considerably. When first seen by us, examination revealed a normal sixteen weeks pregnancy, but there was almost constant clonic jerking of the arms and legs. Blood calcium level at that time was 4.5 mgm. percent. This patient had been told by her physicians that pregnancy would make her hypoparathyroidism worse and that the pregnancy should positively be terminated. This was her first pregnancy and she was most anxious for a child. Treatment was continued with parathormone, calcium orally and intravenously, vitamin D, sedation, and dihydrotachysterol. Throughout her pregnancy there was constant improvement in her symptoms and the clonic motions of the arms and legs completely ceased. At term her blood calcium level had risen to 10.4 mgm. percent. She went into labor spontaneously at term and an episiotomy and outlet forceps delivery of a 6 pound, 12 ounce baby was uneventful. The treatment with parathormone and calcium was continued after delivery but lactation was suppressed. Follow up examinations on this patient have revealed that replacement therapy is almost completely successful. Here, again, is demonstrated a case in which, on superficial examination, pregnancy would be injurious to the patient's co-existing disease—this time a rather unusual metabolic upset. Actually, with intensive therapy, the condition improved remarkably during pregnancy, and the pregnancy, labor, and delivery were normal in all respects.

In summary, let us say that, by presenting these case histories and this more or less

superficial discussion of the concomitant disease, it is desired to emphasize very positively one point: That most pregnant women with preexisting diseases can tolerate the added strains of pregnancy if they are treated intelligently and observed closely. The physician should usually consider the pregnancy as a complication of the disease instead of considering the disease a complication of pregnancy. We are obligated to study these patients most carefully, using all available therapeutic means to make their pregnancies healthier and safer. We must evaluate the functional capacity of every organ concerned. In this age of preventive medicine, sacrificing a baby needlessly is usually a poor answer to this problem.

Coronary Artery Heart Disease—Treatment must be both immediate or palliative and subsequent or corrective. Cardiac pain demands relief but the steps taken depend upon clinical judgment and diagnosis. Acute paroxysmal cardiac pain may be angina pectoris, coronary insufficiency or thrombosis if prolonged. In angina pectoris the patient soon learns that stopping in his steps, and assuming a statuesque attitude and remaining absolutely motionless will bring relief.

The physician should immediately give nitroglycerin 0.3 mg. or 1/200 grain under the tongue, which usually brings relief promptly or aborts an attack. This dose may be repeated if the relief is not satisfactory, but a larger dose may sometimes cause collapse. In patients with low blood pressure, alcoholic beverages may accomplish the same results more slowly, but more safely. After the pain has subsided, the patient should remain quiet at least ten minutes for every minute of pain.

Recognize and modify the precipitating factors, as effort to the point of fatigue, eating, emotional stress, strain, worry, or anger, and exposure to sudden cold wind or rain. Steps must be taken to treat and correct progressive chronic illness, anemia, hemorrhage, or shock from trauma of a sudden severe type, surgical operation, or anesthesia, gaseous distention or overloading of the stomach, excessive drinking of alcohol or smoking tobacco. Any of these may bring on an attack of cardiac pain.

Prevention of further attacks by the avoidance of all precipitating factors is a matter of primary concern. The removal of causative pathologic processes may be considered, but as a rule these cannot be successfully attacked. The treatment of these factors and those concerned in atheromatous disease can only be touched upon in this paper.

Potential etiologic factors must come in for some consideration even though at the present time very little can be accomplished. *Herrmann, J. M. A. Georgia, September '48.*

TREATMENT OF THE CONGENITAL CLUB FOOT

S. RALPH TERHUNE, M. D.

Birmingham, Alabama

There are a few physicians practicing in the state of Alabama who still tell parents to wait until their child, afflicted with a club foot, has grown for a while before starting treatment. This is true because these doctors have probably not refreshed themselves along such lines recently, and they have not changed their opinions since their early days in practice. They do not realize that the trend is steadily away from surgery.

Just a couple of decades ago many club feet were operated on and sufficient time has now elapsed to evaluate partially the end results. They are not good.

Not so long ago children underwent primary treatment consisting of forceful manipulations, Achilles tendon lengthenings, and posterior capsulotomies under general anesthesia. Shortly afterward, deformities would recur and so more soft tissue and bone operations would be performed. Many of these patients had arthrodeses between the ages of three and six years, so, naturally, they have now grown up with short, small, persistently deformed feet. How could it be otherwise when growth centers have been destroyed by an operation at such an early age?

In a recent twenty-five year follow-up of congenital talipes equinovarus cases the records of 144 patients with 217 club feet were studied. All of those patients who had had their initial treatment begun after the age of six years eventually required arthrodesis operations in addition to soft tissue surgery. Consequently, since joints were necessarily destroyed, their end results can be described as architectural improvements only.

In 1922 and 1923, soft tissue surgery was done in one hundred per cent of the club feet and bone operations followed in forty-seven per cent.

In the decade following the description of the decancellation operation by Curtis and Muro in 1934, partial decancellation on the cuboid, talus and calcaneus, with trans-

plantation laterally of the anterior tibial attachment, was performed on sixteen feet. Nineteen rotary tibial osteotomies were done up to 1934.

Since 1944, forty-four per cent of the feet have had a soft tissue operation and only eleven per cent have had an additional bone resection. The trend from operative to manipulative treatment has been steady in its increase as the years have passed under the influence of the teachings of Kite.

Thirty-two patients, sixteen with single and sixteen with bilateral deformities, have been observed for what is considered to be a sufficiently long period to justify partial evaluation of the end results. The period of observation in this group has been from six months to nineteen years since the cessation of definitive treatment. Of these forty-eight feet, seventeen appear to be good results, sixteen fair and fifteen poor. We have interpreted as good results those feet which have no remaining limitation of ankle motion, no supination of the heel, no forefoot varus, no rocker soles, no peroneal weakness and no asymmetry in comparing the two feet. A good functional foot which has residual shortening, moderate forefoot varus, some peroneal weakness, and mild atrophy of the calf musculature is classified as a fair result. The poor results show, in addition to these findings, residual tightness of the Achilles tendon, limited ankle and subtalar motion, heel supination, and possibly rocker soles and tibial torsion.

In the seventeen good results no bone operations were done and only five were operated on. These operations consisted of Achilles tenotomy, posterior capsulotomy and fasciotomy. Kite casts and wedges or Denis-Browne splints were employed for an uninterrupted average period of eleven months and begun at the age of ten days to nineteen months. This was followed by the wearing of club foot shoes and daily corrective manipulations from six months to four years. The nineteen months old child required a tenotomy and fasciotomy during the course of her correction.

The other four feet operated on were in children past six months of age at the start of treatment. Six children in this group had recurrent deformities requiring further casts and wedgings from eight months to two years after their feet had been considered corrected.

Nine of the sixteen club feet that appear to be fair results had operations in addition to casts, wedges and Denis-Browne splints. Three of these were soft tissue operations. In addition, four had decancellations and two had rotary tibial osteotomies. The ages of these children varied from one week to five months at the start, but, unlike the first group, manipulation and external fixation treatment were discontinued after three to six months due to various reasons. Recurrences were the rule. On resumption of treatment, the feet were more resistant and the necessity for operation became frequent.

In the group of fifteen poor end results, the age of the patients at the start of treatment varied from two weeks to six years. Fourteen of them had open procedures and twelve had bone operations in addition to soft tissue surgery. The single exception was a child with one club foot who had uninterrupted casts and wedges for fifteen months from eight weeks of age. Recurrence of the deformity was noted on observation after five years.

Most of the cases in this latter group were treated in the 1920's and surgery was often done at the start or after a few weeks or months of manipulative treatment. Six feet were seen in which decancellation operations were performed and six others had undergone some type of wedge resection.

During the last decade the majority of the cases have been treated by the Kite cast and wedge method for six months to two years. This has been followed by daily manipulations and the wearing of outward flared or straight last shoes for two to three more years. Denis-Browne splints have been used in twenty-one of the younger patients.

At present, the treatment of choice is considered to be Kite casts and wedges or Denis-Browne splints started within a week or ten days after birth. Under such a regimen over-correction occurs within five to

twelve months. This is followed by Denis-Browne convalescent night splints, daily corrective manipulations, and the wearing of outward flared shoes until the age of four to five years.

CONCLUSION

From this study the best treatment appears to be non-operative, but some poor results occur with all types of treatment. The best results are obtained in those feet which receive prolonged manipulative treatment and external fixation with Kite casts or Denis-Browne splints started shortly after birth and uninterrupted by surgical procedures.

816-822 Woodward Building.

Psychiatric Emergencies—Insomnia and restlessness are common complaints of patients suffering from depression or chronic anxiety and tension. The symptom of insomnia would seem to require sedative and hypnotic drugs for its alleviation, and such drugs do, of course, have an important place in its treatment. The tendency, however, of the physician is to rely too exclusively on these drugs and not to exercise sufficiently close supervision over the amounts taken. The writing of prescriptions which do not contain the "non repetatur" direction will allow repeated refilling, so that the patient may take the drug regularly long past the period desired. It is wise practice to include that direction on all sedative prescriptions and to order relatively small amounts. Only rarely is the administration of powerful hypnotics necessary for more than a few days at a time. The meaning of the foregoing remarks in regard to emergencies is that drug intoxication with possible serious consequences may develop when the use of these drugs is abused. Symptoms and signs of intoxication may appear insidiously, be at times obscured by the patient's pre-existent complaints, and may be unrecognized until a dangerous toxic state has been reached.

This picture is particularly likely to occur in bromide intoxication . . . Bromidism may be seen following long use of certain proprietary preparations containing varying quantities of bromides. There is a typically organic type of psychotic reaction characterized by restlessness, marked confusion and disorientation, sometimes hallucinatory phenomena. A rash is often present but not in all cases. Diagnosis may be confirmed by the finding of high levels of bromide in the blood. The estimation of blood bromide concentration is probably indicated in any case of a toxic deliroid reaction having no obvious cause. The specific therapeutic measures, aside from the primary one of stopping further intake of the drug, is the administration of sodium chloride, parenterally and by mouth, to promote excretion of bromide.—*Johnson, New Orleans M. & S. J., September '48.*

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THE PRACTICING PHYSICIAN'S RESPONSIBILITY IN DIABETES DETECTION

The discovery and treatment of diabetes mellitus at an early stage demand the attention of all practicing physicians. Failure to discover and treat diabetes early results in preventable disabilities and impairments of health. In the diabetes exhibit at the annual meeting of the American Medical Association held in Chicago in June 1948, it was shown that the mortality rate for diabetics first seen when a complication had occurred was three times the rate for diabetics first seen earlier and before impairments had developed. Actually the future for the diabetic patient under modern medical treatment is brighter and more hopeful today than ever before.

In 1929, Dr. George H. Bigelow and Dr. Herbert Lombard began a study of chronic disease in Massachusetts which led to the publication of statistics showing that the number of diabetic patients in that state was far higher than had been heretofore thought. In 1935, a National Health Survey was conducted which confirmed these figures. In Oxford, Massachusetts results of a survey by the United States Public Health Service indicates that at least a million undiagnosed diabetics exist in the United States and Canada.

District and state medical societies now have the opportunity to take the lead in the fight against diabetes in response to an appeal to the practicing physicians of the United States, presently being made by the Committee on Diabetes Detection of the American Diabetes Association. This committee was appointed by Dr. Charles H. Best, President, at the annual meeting in June 1948. Plans are being formulated for National Diabetes Week December 6 to 12, 1948.

As a first step in a full-scale attack on diabetes, eighth among the leading causes of death, a medical society should appoint its committee on diabetes. The national Committee on Diabetes Detection stands ready to assist local committees in their work. Already the Committee is preparing material containing information on diabetes for use by the physician in his own town. These materials include programs for medical meetings, radio broadcasts and spot radio announcements for use by city and county medical societies, and suggestions for cooperation with local hospitals toward the control of diabetes.

The committees on postgraduate instruction in state and county societies should plan instruction and demonstrations in diabetes in county meetings this fall. Also, hospital staff meetings should provide a place on their program for diabetes. Committees on public relations and public information should plan meetings for instruction of laymen, including patients, their families, and all others interested.

Women, too, have an important role to play in the fight to control diabetes. It is significant that among women diabetes is more frequent than among men. It is desirable to enlist the aid of women's organizations, especially the women's auxiliaries of the medical societies, as an adjunct to the program planned by medical societies.

Already a number of local diabetes associations affiliated with the American Diabetes Association have been formed. More such associations composed of physicians are needed. With the cooperation of the physicians within their area these associations have accepted the challenge and will strive to find and treat the million hidden diabetics. Associations will be assisted by the American Diabetes Association in attaining such

objectives as: more graduate courses in diabetes for physicians; providing better laboratory services; and helping with instruction for patients. Now is the time for action. Will the practicing physician seize this opportunity for progress in an all-important field or will he prefer to surrender to others his responsibility for diabetes detection and treatment?

METOPON RELEASED

The Treasury Department announced on June 21, 1948, that Metopon had been released to qualified wholesale drug dealers, hospitals, druggists and practitioners. Subject to compliance with Federal narcotics laws and regulations, physicians may now make the drug available to patients on prescriptions.

The limited use of Metopon (methyldihydro-morphinone hydrochloride) for the relief of pain in cancer cases was originally recommended by the Drug Addiction Committee of the National Research Council. This Committee, with the cooperation of the American Cancer Society, supervised the distribution of the drug.

In the past Metopon could be obtained only by using a regular official Narcotic Order Form accompanied by a signed statement supplying information as to the number of patients to be treated and the diagnosis in each case. Each physician was sent a record card which had to be filled out and returned to the National Research Council.

Chemically, Metopon is a morphine derivative; pharmacologically, it is qualitatively like morphine even to the properties of tolerance and addiction liability. Metopon differs from morphine quantitatively in all of its important actions. Its analgesic effectiveness is at least double and its duration of action is about equal to that of morphine; it is nearly devoid of emetic action; tolerance to it appears to develop more slowly and to disappear more quickly and physical dependence builds up more slowly than with morphine; therapeutic analgesic doses produce little or no respiratory depressions and much less mental dullness than does morphine; and it is relatively highly effective by oral administration.

Metopon is available only in capsule form for oral administration. The capsules are in bottles of 100 and each capsule contains 3.0

mg. of Metopon hydrochloride. The dose of Metopon hydrochloride is 6.0 to 9.0 mg. (2 or 3 capsules), to be repeated only on recurrence of pain, avoiding regular by-the-clock administration. As with morphine, it is most desirable to keep the dose at the lowest level compatible with adequate pain relief. Therefore, administration should be started with two capsules per dose, increasing to three only if the analgesic effects are insufficient.

THE RED CROSS BLOOD PROGRAM

Local blood banks serve the valuable purpose of making blood available locally on an individual emergency basis. They are generally operated by a hospital through the use of individual volunteer donors, actual cost of processing being passed on to the patient who sometimes must either later replace the blood he has received or pay a penalty. Some local blood banks are frankly commercial. In any event, regardless of the form taken, they are local in scope, often being operated for one hospital only; and they meet emergency needs only.

The Red Cross blood program, although it is intended to meet disaster and other emergency needs, actually takes up where the function of the local blood bank leaves off. Any given Red Cross blood center is characterized by the following principles:

1. It seeks to supplement existing local blood banks rather than to compete with or absorb them. It does not in any way interfere with the traditional recipient-physician-donor relationship.

2. Although destined to be affiliated with a nation-wide network of blood centers, the individual blood center is basically a local enterprise. When a given Red Cross chapter wishes to inaugurate a blood center, approval must first be obtained from the local medical society. Likewise, the medical society must approve all technical personnel (physicians, technicians, etc.) who, where possible, are employed locally and, in general, the local society maintains control of the blood center's technical operation, the Red Cross chapter being responsible for donor recruitment, housekeeping functions, and finances.

Where surrounding Red Cross chapters are brought into the picture on a cooperative

basis through the operation of a mobile blood unit, their local medical societies are likewise in control of the program in each cooperating county.

3. Although the blood center is a local enterprise controlled by the local medical profession, it has the following advantages of being a part of a national network of similar centers:

a. It follows technical standards regarding processing, labeling, storage, and distribution set forth by the National Research Council. Consequently, techniques and labeling will be uniform and the products interchangeable the nation over.

b. If, at any time, the local supply of blood or its derivatives should fail in quantity or type, the local center has but to draw upon its nearest neighbor center.

4. The local blood bank, while serving a real need, generally stops at the provision of whole blood for emergency uses. One of the most valuable contributions of the Red Cross blood program is that it continues from that point.

In the Red Cross blood center, whole blood that has not been used within 21 days is processed to liquid plasma. If not in demand, this liquid plasma is then processed into a number of derivatives including:

Serum immune globulin for the prevention of measles.

Serum albumin for the treatment of shock.

Fibrin film used in neurosurgery.

Anti-hemophilic globulin, for the treatment of so-called "bleeders," and other products. Thus there is no waste and a number of extremely valuable fractions are made available.

It should not be overlooked that in addition to satisfying usual requirements, the Red Cross blood program, because of its quantity basis, also makes blood available for therapeutic uses, including the treatment of deficiency and other conditions.

5. The research factor is also to be considered. Liquid plasma which is not required for the production of derivatives in the blood center is distributed in some quantities to various universities and pharmaceutical laboratories for research purposes. Approximately 25 derivatives of liquid plasma have been developed in this way. Likewise, research is being carried on at one major university on red cells.

6. The Red Cross is in no way attempting to enter the practice of medicine. The blood program is considered a supportive service to physicians and hospitals and thus to the public. The program was established at the instigation of the American Medical Association and the National Research Council. It is and will be carried on under the best medical auspices. At the national level, the program is controlled by the American Medical Association through a committee consisting of Dr. Charles A. Janeway, Dr. Elmer DeGowin, Dr. Charles A. Dean, Dr. Isador S. Ravidin, Dr. Robert F. Loeb, and Dr. Edwin J. Cohn. In every state where the program is to be inaugurated, approval first is to be obtained from the State Medical Association before contacts are made with county medical societies. At the local level, technical control of the center is maintained by the county medical society.

7. The entire cost of operating a blood center is borne by the Red Cross. Operating as the Red Cross does in over 3,700 counties in the United States, this has the effect of spreading the cost of the blood supply over the whole country. This, together with the volume factor, will have the effect of greatly reducing the cost of each individual blood transfusion or dosage of blood derivative. The major factor, however, is making immediately available to the physician the necessary quantity and type of blood and blood derivatives that his treatment requires.

8. The operation of the blood center is briefly as follows: A fixed center, complete with laboratory facilities and technical personnel, is established at a point which is a population and hospital center. Donors come to the blood center as individuals on appointment, and group appointments are likewise arranged.

To supplement the fixed center, a mobile blood unit, staffed with technical personnel, makes scheduled visits to surrounding communities within a 50 to 75 mile radius, again on either an individual or group appointment basis. All the blood is processed at the fixed center and is stored either there or in the outlying communities where adequate storage facilities are available.

9. It has been found that the ideal supply of whole blood in any given community is five pints per general hospital bed per year

and one pint per tuberculosis and mental-and-nervous bed per year. Center facilities and operations are based on these figures.

10. No charge is ever made for the blood itself, nor is the patient obligated to replace it. However, the physician and the hospital may charge their usual professional fees for administration of the blood or blood derivative.

To summarize, the Red Cross blood program is a supportive service to physicians and hospitals supplementing existing local blood banks by making larger quantities of blood available for both emergency and therapeutic uses, for research and the production of derivatives; controlled at the local level by the county medical society, utilizing local technical personnel where possible, yet being able to draw upon the resources of a large national organization.

ARTHRITIS AND RHEUMATISM FOUNDATION

Appointment of ten nationally known physicians and scientists to the Medical and Scientific Committee of the recently organized Arthritis and Rheumatism Foundation has been announced by W. Paul Holbrook, M. D., Tucson, Ariz., president of the Foundation.

The committee will guide the medical policies and activities of the Foundation in its attack on one of the largest problems facing the medical profession, the seven and one-half million persons in the United States suffering from arthritis or related disorders.

Functions of the committee will include the development of programs which can be undertaken by the Foundation's 38 local chapters which are being organized throughout the country, and advising and guiding the chapters in carrying them out.

It will establish and promote medical standards, particularly with regard to rheumatism clinics, which will guide the chapters in their work in their localities for the development of better clinical facilities for the care of rheumatism patients. It also will establish standards and goals for medical education in the field of rheumatism on various levels such as:

Undergraduate medical education, graduate education aimed at proficiency in clinical care, and suggested plans for rheumatism educational programs for the general

practitioner, to be carried out by chapters in cooperation with state and county medical societies.

The committee also will be charged with the responsibility of determining whether or not other chapter activities are sound from the medical standpoint and in keeping with the policies of the Foundation.

Members of the committee are: Dr. Guy A. Caldwell, New Orleans, professor of clinical orthopedics, Tulane University of Louisiana School of Medicine; Dr. Russell L. Cecil, New York, professor of clinical medicine, Cornell University Medical College; Dr. Robley D. Evans, Boston, professor of physics, Massachusetts Institute of Technology; Dr. Morris Fishbein, Chicago, editor, *The Journal of the American Medical Association*; Dr. Philip S. Hench, Rochester, Minnesota, professor of medicine (Mayo Foundation), University of Minnesota Medical School; Dr. Andrew C. Ivy, Chicago, vice-president in charge of the Chicago Professional Colleges, University of Illinois; Dr. Karl F. Meyer, San Francisco, director, the Hooper Foundation, University of California; Dr. Currier McEwen, dean, New York University College of Medicine, New York; Dr. Walter W. Palmer, New York, director, William Hallock Park Laboratories, Public Health Research Institute of the City of New York, Inc.; and Dr. Howard A. Rusk, New York, professor of rehabilitation, New York University College of Medicine.

Dr. Holbrook stated that "a meeting of the committee is expected to be held after the fall campaign in November, at which time a chairman will be elected and possibly two or three additional members selected.

"Among the main objectives of the Foundation, which has been incorporated under the laws of the state of New York, and which has its national headquarters in New York City," Dr. Holbrook explained, "are the making of a nationwide survey of what can and should be done to combat the problem of arthritis; arousing the public and the medical profession to the need for action in this field, and the financing of a program which will include the development, with the aid of the National Research Council, of a nationwide research program.

"It is also planned to establish fellowships designed to increase the number of able men qualified to conduct research and specialize

in the treatment of arthritis and other rheumatic diseases, and to develop key centers throughout the country devoted to research, teaching and treatment, coordinated with medical schools."

CANCER SEMINAR

The Cancer Seminar of the Southeastern States will be held on November 8, 9, and 10, 1948 at the Tampa Terrace Hotel, Tampa, Florida. The Seminar is under the direction of the Tumor Clinic, Tampa Municipal Hospital, Tampa, Florida, and is sponsored by the American Cancer Society, Florida Division, and the Florida State Board of Health.

The Cancer Seminar will consist of morning and afternoon sessions, presenting in panel discussion carcinoma of the breast, carcinoma of the lung, carcinoma of the uterus, carcinoma of the ovary, carcinoma of the stomach, and lymphoblastoma-leukemia.

Each symposium will be discussed by a surgeon or internist, a pathologist, and a roentgenologist, who will handle the various phases of diagnosis, pathology, and treatment. At the end of each panel discussion, thirty minutes will be allowed for questions submitted by the audience.

This Seminar is conducted for the doctors of the Southeastern States and primarily intended for the benefit of physicians in the general practice of medicine; however, specialists in any field of medicine are urged to attend.

Requests for hotel accommodations should be sent to Mr. A. K. Dickinson, c/o Tampa Chamber of Commerce, Tampa, Florida, stating in your communication that you are attending the Cancer Seminar.

UROLOGY AWARD

The American Urological Association offers an annual award of \$1000.00 (first prize of \$500.00, second prize \$300.00 and third prize \$200.00) for essays on the result of some clinical or laboratory research in urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to residents in urology in recognized hospitals.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association to be held

at the Biltmore Hotel in Los Angeles, May 16-19, 1949.

For full particulars write the Secretary, Dr. Thomas D. Moore, 899 Madison Avenue, Memphis 3, Tennessee. Essays must be in his hands before February 15, 1949.

VAN METER PRIZE AWARD

The American Goiter Association again offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The Award will be made at the annual meeting of the Association which will be held in Madison, Wisconsin May 26, 27, and 28, 1949, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a type-written double spaced copy sent to the Corresponding Secretary, Dr. T. C. Davison, 207 Doctors Building, Atlanta 3, Georgia not later than March 15, 1949. The committee, who will review the manuscripts, is composed of men well qualified to judge the merits of the competing essays.

A place will be reserved on the program of the annual meeting for presentation of the Prize Award Essay by the author if it is possible for him to attend. The essay will be published in the annual Proceedings of the Association. This will not prevent its further publication, however, in any Journal selected by the author.

Pediatrics—Good pediatrics practice includes an awareness of an atmosphere of friction and tension in the home as a possible clue to certain functional disturbances and problems of behavior in the child. The young child is an integral part of the family group; his life experiences are colored by the attitudes and behavior of those in his immediate environment, especially his mother. We have a definite responsibility to those parents who seek counsel concerning a practical solution to many common problems arising in the lives of their children . . . Medicine is constantly broadening its understanding of measures necessary for the prevention of disease. This phase of pediatrics seems provocative of further careful study in an effort to evaluate the role played by the factors of emotional stress in predisposition to disease.—*Quillian, South. M. J., September '48.*

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

PUBLIC RELATIONS

W. A. Dozier, Jr., Director

The Committee on Medical Service and Public Relations has formulated a public relations program. This program has been presented to the State Board of Censors, and approval has been given by that body.

The objectives of the program are:

1. To assist the medical profession in all its efforts to increase health and better medical care..

2. To create greater understanding between the public and the medical profession by:

a. Informing the public of problems concerning medical care and medical service.

b. Informing the public of the efforts of the medical profession in coping with problems in medical care and medical service.

c. Studying and informing the medical profession of the tenor of the times and of the emotions of the public toward the medical profession.

3. To promote and ever increase better health for all the people of the state of Alabama.

The policies of all who work with the program shall be:

1. To operate a public relations program for the common good of the people of the state of Alabama.

2. To support and maintain medical practice as found in our system of free enterprise.

3. To work with all interested groups in bettering health in Alabama, including the Woman's Auxiliary to the State Medical Association.

4. To use all available means of reaching the public, each medium to be used when it is appropriate.

THE PUBLIC RELATIONS PROGRAM

1. Study matters concerning medical service and public health in Alabama.

a. Study disbursement of doctors and nurses.

b. Study hospitalization and related facilities available.

c. Study service available to the medically indigent.

d. Study the present situation of post-graduate studies within the Association.

2. Actively support the proper functioning of the Hospital Service Corporation of Alabama:

a. Endeavor to increase the participating doctors..

b. Strive to increase membership by informing the public of what the Corporation offers.

c. Work toward greater coverage in areas which are not now properly activated.

3. Actively alert the public through all available channels on:

a. Progress of medical service in Alabama.

b. Plans of the medical profession for the future.

c. Problems of the medical profession in extending medical service.

d. The causes of present medical costs.

e. How the public can assist in increasing medical service.

4. Study, support, and sponsor proper legislation pertaining to better medical care:

a. Study present situation of medicine and public health in legislation.

b. Study proposed legislation.

c. Sponsor desirable laws.

d. Support or oppose legislation according to its aid or detriment to better medical care and better public health for all.

5. Actively encourage the creation and proper functioning of Health and Medical Care Councils.

6. Encourage more doctors and nurses to practice in Alabama—especially in rural districts.

7. Encourage the formulation of plans for the care of the indigent and the medically indigent at the local level.

8. Support the proper functioning of the Hill-Burton Act in Alabama.

9. Stimulate more people to enter medical and nursing schools.

10. Supply educational health information to the public in an effort to create an ever increasing health consciousness.

11. Assist all local units of the Medical Association in carrying out the aims of the Association.

12. Offer services to any group or groups who are conscientiously trying to improve health and medical care.

This planned program is broad in scope, and those who will carry out its tenets realize at its inception just how broad it is. If this be realized, it becomes evident that it is a program to carry over many years.

This program is neither static nor all inclusive. Instead, as parts become obsolete, they will be dropped; and, as new problems arise, new plans will be formulated to meet these problems. And these new ideas will be included in the program.

Also, this program is not considered the only answer to problems being faced at the present. This is merely a beginning—a beginning which will have to meet each new day with new ideas. However, it is felt that this program will lead us in Alabama along the proper road toward better understanding and better health and medical service for all.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

D. G. Gill, M. D.
State Health Officer

THE STETHOSCOPE AND ITS INVENTOR

Diagnosis has made rapid progress in recent decades. It has been particularly great within the past few years. Thanks to it, hardly any victim of even the most obscure illness need remain long in doubt as to what is wrong with him, if he can obtain adequate diagnostic care.

This article will be devoted to one important contribution to better health through better diagnosis. The person it will honor was a French physician who made his great gift to the human race about a century and a third ago. His name may or may not be familiar to you. This hero of medicine was Rene Theophile-Hyacinthe Laennec.

At the time he made that great contribution, he was a member of the staff of the Necker Hospital, in Paris. He had no idea that he would ever have a high place in the medical annals of his age when he reported for work on a certain day. He was merely ready to do the routine tasks of that day.

One of them was the examination of a young girl who was unusually fat. In fact, writers describing the incident went so far as to call her "very fat." She was suffering considerable pain. To add to her and the physician's troubles, she was experiencing a great deal of difficulty in breathing.

Dr. Laennec formed certain opinions regarding her case and the cause of her pain and breathing difficulty from her obvious symptoms. But they did not tell him enough. The normal thing for him to do under such circumstances was to place his ear to her chest and listen to the sounds made by her over-burdened heart. While such sounds, then as now, were very indistinct, they were the best an early-nineteenth-century physician had to depend upon in diagnosing a condition of this kind.

But this young girl, remember, was very fat. And that heavy wall of flesh was about as sound-resistant as a wall of steel would have been. Whatever sounds there might have been inside her chest stayed there: They could not penetrate that thick barrier. He soon became convinced that he would never be able to diagnose her condition in that way. He had no recourse except to admit failure. But it would be only temporary failure, he promised himself. He would find some way to get those faint sounds through that thick barrier.

Dr. Laennec relaxed. Then, not long afterward, he went for a stroll in the famous Gardens of the Louvre. As he walked along, he touched elbows with many other strollers. Still others he saw at a distance.

His eyes became fixed upon some youngsters sitting on a pile of timbers; part of them at one end, the others at the other. One group would tap a long wooden beam

lightly while the other group placed their ears to the beam and listened intently. The listeners would shout to their companions that they could hear the tapping sounds clearly.

Dr. Laennec felt an overwhelming inspiration. Here was exactly what he was looking for. If sound could travel from one end to the other of a long wooden beam in a park, it would almost certainly travel in the same way from the human chest to his or any other doctor's ears.

His idle stroll ended abruptly. At the moment that thought struck him, he was once more the hard-working physician. He returned as quickly as he could to the Necker Hospital. He went immediately to the ward where that girl was resting. Finding a paper-backed book that could be rolled into a tight tube, he did just that. Other patients and nurses on duty in that ward wondered if he had lost his reason, but he paid little attention to them or what they might think as he placed one end of that tube to her chest and listened at the other end. He heard those chest sounds distinctly.

As far as is known, that was the world's first stethoscope. Literally millions of others, refined and improved from time to time, have been manufactured since that medically epochal day in 1816. It would be difficult indeed to find a practicing physician in the United States or anywhere else in the civilized world who does not have one or several. There is no telling how many lives have been saved by this simple invention that received its inspiration during a stroll in a Paris park.

Some of the improvements and refinements just mentioned were made by Laennec himself. As useful as it was in transmitting sounds, that rolled-book tube obviously was not the best possible means of using the acoustic principle he had uncovered. So he began experimenting with wood, various kinds of wood. His experiments led him to select the linden and beech as the most satisfactory. Not only were they rigid and sturdy (most woods are). They had the additional advantage of transmitting sounds more clearly and accurately than any other.

Beech and linden stethoscopes have long since faded from the medical picture of course. Others after his death made adapta-

tions of those he developed, and in time he himself would hardly have recognized those that came into general use. Eventually the wood was discarded entirely. Nowadays the stethoscope a physician uses when he listens to the heart or to the sounds in the chest consists of a small metal cup connected by lengths of rubber tubing to two ear-pieces. But, different as it is in application, it is in principle the same crude rolled-book stethoscope that Laennec used for the first time that day in that Paris hospital ward.

Like his medical descendants of our day, Laennec needed to do more than hear the sounds from his patients' chest. He also needed to know what those sounds meant. This knowledge he acquired by a slow process of trial and error, which, however, was made much easier by his unusually keen ear and his knowledge of music. In time those varying sounds conveyed to him clear messages about the condition of vital organs. With the knowledge they brought, he was able to find out whether those organs were healthy or diseased.

Like most other benefactors of humanity, he has left his own record of his work and his interpretation of its significance. He wrote:

"From this moment (of discovery of the principle of the stethoscope) I imagined that the circumstances might furnish means for enabling us to ascertain the character not only of the action of the heart but of every species of sound produced by the motion of the thoracic viscera, and consequently for all the exploration of the respiration, the voice, the rales, and perhaps even the fluctuation of fluid effused in the pleura or pericardium (the sac containing the heart). With this conviction, I forthwith commenced at Necker Hospital a series of observations from which I have been able to deduce a set of new signs of the diseases of the chest. These are for the most part certain, simple and prominent, and calculated, perhaps, to render the diagnosis of the diseases of the lungs, heart and pleura as decided and circumstantial as the indications furnished to the surgeons by the finger or sound in the complaints wherein these are of use."

The stethoscope's discoverer was a Breton. He was born in Quimper, in that province of France, on February 17, 1781. A grand-uncle took him in charge while he was quite

young. From that association he benefited greatly, because that devoted relative saw that he received the best possible care. It included development of his mind, as well as protection of his body against various illnesses.

This association lasted about five years. Then the young Laennec began another association closely linked to the work that he was destined to make his career. This time he received the care and encouragement of an uncle who was a physician. In addition, that uncle was a member of the Faculty of Medicine at the famed University of Nantes. There were many disturbances and distractions, including the world-shaking French Revolution. But the youth continued with his education and showed great promise. One of the most striking evidences of future attainment was his ability to win achievement medals and prizes.

He was 19 when the next major change came in his life. At that age he went to Paris and took up once more the study of Latin. It was not very long before this youth with the brilliant mind was a master, not of that language alone but of others as well: He also acquired a working knowledge of German and English.

Somewhat later he again came under the influence of his physician-uncle. And this time the effect was permanent. Deciding to become a physician himself, he became a student in the University of Paris. There his brilliant mind, aided by his rare ability to apply himself to the tasks of study, brought him other honors, including first prizes in both medicine and surgery. About then he came under the influence of another and even greater man of medicine than his uncle. That was the famed Corvisart, who had become a pioneer in the use of the diagnostic procedure known as percussion. (Corvisart did not invent that procedure, however. He had simply adapted it after its invention by Auenbrugger nearly half a century earlier.)

After graduation Laennec became interested in the examination of human bodies after death. He also developed a hungry interest in the problems of hospital care. His broad medical outlook caused him to become a writer on various subjects in his field. The matters with which he concerned himself as an author covered a wide range,

from the life and achievements of Hippocrates, "the Father of Medicine," to alcoholic cirrhosis.

Laennec's appointment as a member of the medical staff of the famous Necker Hospital followed in due course. There he found a full outlet for his vast energy and consuming medical curiosity. His work at that institution added greatly to his reputation. While his discovery of the stethoscope has since become much the best known of his achievements, he would have been recognized as one of the first physicians of Europe even had he not taken that particular walk through the Gardens of the Louvre on that particular day.

One of Laennec's most successful literary works was a book containing the fruits of his study of the human chest through the stethoscope. The first edition was soon exhausted, and his friends urged him to bring out a second. This he did, including considerable newly acquired information. While naturally later medical works have given their readers knowledge that has become available since his time, those who are fortunate enough to get their hands on the rare copies of it still in print have been surprised to find how "modern" many of Laennec's theories and principles still are.

This brilliant physician, discoverer and student of medicine did not live long to enjoy the success of his most famous book. The second edition had been off the presses only a short time when he died. The cause of his death was tuberculosis, from which he had been suffering for a long time.

Dr. J. Arthur Myers, of the University of Minnesota Medical School, wrote of this great Frenchman in his book, *Fighters of Fate*:

"Although Laennec died too soon, he had won his goal, and, as the battle with tuberculosis continues, he must be reckoned among the greatest fighters of the disease who have ever lived. When the fight shall be over and man has been freed at last from sorrow, suffering and death from tuberculosis, Laennec's name will ring on down the ages as that of one of the great emancipators of men."

Fortunately, those who have had, or might have had, tuberculosis are by no means the only ones who have benefited greatly from Laennec's work. A number of other diseases have also been robbed of much of their terror because of him. Indeed all humanity may be said to be his debtor.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS, MAY AND
JUNE 1948, AND COMPARATIVE RATES

Live Births, Stillbirths and Death by Cause	Number Registered During May 1948			Rate* (Annual Basis)			Number Registered During June 1948			Rate* (Annual Basis)		
	Total	White	Colored	1948	1947	1946	Total	White	Colored	1948	1947	1946
Total live births	6343	**	**	24.6	25.2	20.3	6319	**	**	25.3	26.9	22.2
Total stillbirths	189	**	**	28.9	35.4	30.9	219	**	**	33.5	27.3	31.7
Deaths (stillbirths excluded)	2156	1250	906	8.4	8.2	7.6	2131	1206	925	8.5	8.4	8.3
Infant deaths—under one year	219	135	84	34.5	39.2	40.9	254	136	118	40.2	39.5	40.1
under one month	167	112	55	26.3	27.3	29.0	195	104	91	30.9	29.1	31.7
Cause of Death												
Typhoid and paratyphoid fever 1, 2						0.4	2	1	1	0.8		0.4
Cerebrospinal meningitis 6	2	2		0.8	0.8	0.4	2	1	1	0.8	1.2	1.2
Scarlet fever 8												
Whooping cough 9	4	1	3	1.6	5.0	1.2	8	5	3	3.2	4.4	1.6
Diphtheria 10	2	1	1	0.8	0.8	0.4	1	1		0.4		0.4
Tuberculosis, all forms 13-22	115	42	73	44.6	40.0	34.9	96	31	65	38.5	39.7	31.6
Malaria 28	1	1		0.4	0.8	0.4					1.2	2.0
Syphilis 30	24	1	23	9.3	10.5	10.2	19	4	15	7.6	11.2	8.5
Influenza 33	15	10	5	5.8	7.4	7.1	8	4	4	3.2	4.4	3.6
Measles 35	1		1	0.4	1.9	2.7	3	3		1.2	2.4	2.0
Poliomyelitis 36											0.4	0.8
Encephalitis 37											0.4	0.4
Typhus fever 39	1	1		0.4		0.8					0.8	1.2
Cancer, all forms 45-55	228	170	58	88.5	70.2	70.2	201	140	61	80.6	81.8	77.4
Rheumatic fever 58	2	1	1	0.8	***	***	1		1	0.4		
Diabetes mellitus 61	35	21	14	13.6	11.6	11.8	39	26	13	15.6	11.2	8.9
Pellagra 69	2	1	1	3.1	5.8	3.5	5	3	2	2.0	2.4	2.7
Alcoholism 77	2	1	1	0.8	0.4	0.8	1	1		0.4	0.8	1.6
Intracranial lesions 83	241	123	118	93.5	86.5	76.9	189	100	89	75.8	85.0	81.0
Other diseases of nervous system 80-82, 84-89	18	9	9	7.0	***	***	32	18	14	12.8	***	***
Diseases of the heart 90-95	495	328	167	192.1	190.2	178.8	525	310	215	210.5	182.5	183.6
Diseases of the arteries 96-99	16	12	4	6.2	9.7	7.1	26	17	9	10.4	7.6	8.1
Other diseases of the circulatory system 100-103	16	3	13	6.2	***	***	15	8	7	6.0	***	***
Bronchitis 106	2	2		0.8	1.9	1.2	2	2		0.8	2.0	2.0
Pneumonia, all forms 107-109	64	31	33	24.8	30.7	27.4	63	39	24	25.3	24.9	27.2
Diarrhea and enteritis, under 2 years 119	9	8	1	3.5	1.6	2.7	11	5	6	4.4	2.4	6.1
Diarrhea and enteritis, 2 years and over 120	4	3	1	1.6	1.9		3		3	1.2	1.2	3.6
Appendicitis 121	4	4		1.6	3.5	5.5	10	6	4	4.0	2.4	3.6
Hernia and intestinal obstruction 122	12	6	6	2.3	7.4	5.5	12	8	4	4.8	7.2	8.9
Cirrhosis of the liver 124	14	7	7	5.4	5.4	5.1	18	13	5	7.2	4.4	3.6
Nephritis, all forms 130-132	160	88	72	62.1	49.3	57.3	164	87	77	65.8	56.5	62.2
Other diseases of the genito-urinary system 133-139	18	9	9	7.0	***	***	21	11	10	8.4	***	***
Diseases of pregnancy and childbirth 140-150	17	5	12	26.0	32.7	35.5	13	5	8	19.9	27.6	15.9
Puerperal septicemia 140, 142a, 147	2	1	1	3.1	6.0	5.6	3	2	1	4.6	2.9	3.5
Congenital malformations 157	18	14	4	2.8	***	***	26	17	9	4.1	***	***
Suicide 163, 164	21	19	2	8.1	5.0	3.1	19	18	1	7.6	3.6	10.1
Homicide 165-168	49	17	32	19.0	14.7	12.9	31	8	23	12.4	14.8	14.6
Accidental deaths 169-195	171	107	64	66.4	69.9	55.7	177	118	59	71.0	61.8	70.1
Motor vehicle accidents 170	55	36	19	21.3	23.7	19.2	59	39	20	23.7	17.2	23.1
All other defined causes	256	161	95	99.3	138.9	116.5	261	152	109	104.7	146.8	143.9
Ill-defined and unknown causes 199-200	111	35	76	43.1	40.7	48.6	127	44	83	50.9	64.2	53.9

*Birth and death rates per 1,000 population; stillbirths per 1,000 total births (stillbirths included; infant deaths per 1,000 live births; deaths from specific causes per 100,000 population; deaths from puerperal causes per 10,000 total births. All rates are based upon the May and June reports of the years specified.

**Not available.

***Included with "all other defined causes" in 1946 and 1947.

BUREAU OF SANITATION

Arthur N. Beck, M. S. in S. E., Director

THE EFFECTS OF HOMOGENIZATION ON
MILK

Contributed by
U. D. Franklin, B. S., M. S.
Chief Sanitarian

The homogenizer and viscolizer have come to be standard equipment in most market milk plants as a result of the wide acceptance of homogenized milk. The term homogenized milk needs no introduction to most milk customers as nearly all of them have had an opportunity to test its merits.

Next to pasteurization, the process of homogenization has probably done more than any other thing to increase the popularity of milk as a beverage. Homogenized milk does not cream and therefore requires no mixing, it keeps better, it is more palatable, it is easily modified for infant feeding, it compares more favorably with evaporated milk for feeding babies, and is sometimes used in coffee and on cereals. Freezing does not destroy the fat emulsion in homogenized milk nor do cream plugs form in this product. Vitamin D concentrates can be easily and temporarily dispersed during the homogenizing process.

Homogenization increases the number of fat globules and the amount of fat surface. The globules in unhomogenized milk vary in size from 1 to 18 microns, the majority being 4 to 8 microns in diameter. As the surface area of the fat globule is increased by homogenization, the amount of absorbed material is increased. It is stated by one investigator that homogenization increases the amount of absorbed protein from 2.27% in unhomogenized milk to 25.7 in homogenized milk. The absorption of serum material at the fat globule surface undoubtedly plays an important part in curd tension reduction. The curd tension of milk is primarily dependent upon both the amount of fat present and the amount of serum solids. As the fat is increased, the curd tension of homogenized milk is decreased unless at the same time the percentage of serum solids is increased. Since the milk solids-not-fat in milk are usually lower in summer than in winter, the summer milk usually has a lower curd tension.

Increasing the pressure of homogenization decreases the curd tension rather rapidly until a pressure of about 2000 pounds has been reached after which further increases in pressure result in reduction, but at a decreasing rate. In fact, little is gained by exceeding 3000 pounds pressure as far as curd tension reduction is concerned.

The pressure responsible for the non-creaming feature of homogenized milk accounts for the occasional occurrence of sediment. Apparently the body cells have a higher specific gravity than milk. Consequently when no creaming occurs they gradually settle to the bottom of the container, together with other encased material. When milk creams, the cells are carried to the top of the bottle with the clumped fat particles. Since the body cells in milk respond to the force of gravity, it should be possible to remove them by centrifugal force. In other words, by clarifying milk it should be possible to prevent the presence of sediment. Where clarification does not prevent sediment from forming, it is likely that a high percentage of the cows supplying the milk have mastitis, in which case a program for the elimination and control of mastitis should be inaugurated among the producers.

In the processing of any dairy product, the more equipment the milk comes in contact with, the greater the chance for bacterial

contamination. However, when the modern type of sanitary homogenizer is used, it is possible to homogenize milk without any appreciable bacterial increase. To do this, it is necessary, of course, to wash and sterilize the machine properly, each day.

Fortunately, homogenized milk does not readily develop the oxidized flavor so common in unhomogenized milk and may retain its pleasing flavor longer. Furthermore, even though it may have the same fat content as unhomogenized milk, the homogenized product may taste richer because of the even distribution of the fat globules.

BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

	June	July	E. E.* July
Typhoid	2	9	27
Typhus	23	27	65
Malaria	50	45	547
Smallpox	0	0	0
Measles	121	42	129
Scarlet fever	40	31	31
Whooping cough	240	96	153
Diphtheria	12	16	19
Influenza	21	16	27
Mumps	63	81	62
Polioomyelitis	6	35	13
Encephalitis	0	2	1
Chickenpox	86	13	15
Tetanus	5	4	4
Tuberculosis	233	267	261
Pellagra	4	2	7
Meningitis	3	11	10
Pneumonia	85	101	107
Syphilis	1202	609	1389
Chancroid	15	14	14
Gonorrhea	475	613	566
Tularemia	0	0	1
Undulant fever	8	9	9
Amebic dysentery	0	3	0
Cancer	223	474	0
Rabies—Human cases	0	0	0
Positive animal heads	23	28	0

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF LABORATORIES

H. P. SAWYER, M. D., Director

SPECIMENS EXAMINED

JULY 1948

Examinations for diphtheria bacilli and Vincent's	228
Agglutination tests (typhoid, Brill's and undulant fever)	1,680
Typhoid cultures (blood, feces and urine)	818
Examinations for malaria	1,042
Examinations for intestinal parasites	3,399
Serologic tests for syphilis (blood and spinal fluid)	28,264
Darkfield examinations	26
Examinations for gonococci	2,671
Examinations for tubercle bacilli	2,582
Examinations for meningococci	2
Examinations for Negri bodies (microscopic)	100
Water examinations	1,614
Milk and dairy products examinations	3,493
Miscellaneous	550
Total	46,469

BOOK ABSTRACTS AND REVIEWS

Correlative Neuroanatomy. By Joseph J. McDonald, M. S., M. Sc. D., M. D.; Joseph G. Chusid, A. B., M. D.; and Jack Lange, M. S., M. D. Third edition. Paper. Price, \$3.00. Pp. 156, with 60 illustrations. Palo Alto, Calif.: University Medical Publishers, 1948.

This manual of neuroanatomy, apparently intended in the beginning as a compendium, has actually outgrown this purpose and at the present time serves as a particularly useful guide for the student in his study of neuroanatomy.

One of the most attractive features of the manual is that not only is neuroanatomy covered completely but the diagnosis of neurologic syndromes is discussed in the second section, even including pneumoencephalography and electroencephalography. The third section is particularly valuable to the student in that it discusses simply but effectively neurologic syndromes.

The manual is an accurate, authentic method of study of the entire nervous system in outline form.

I think the value of this book lies in its value to the student. It can be heartily recommended for such use. It is not designed as a reference work but rather as an easily available, easily read guide.

Walter G. Haynes, M. D.

Manual of Leprosy. By Ernest Muir, C. M. G., C. I. E., M. D., F. R. C. S. Edin.; Medical Adviser, British Empire Leprosy Relief Association; Secretary, International Leprosy Association; Late Research Worker in Leprosy, School of Tropical Medicine, Calcutta. Cloth. Price, \$5.00. Pp. 200, with 69 illustrations. Baltimore: Williams and Wilkins Co., 1948.

This small volume is a concentrated, yet complete, text, giving the latest data in regard to leprosy. From his experiences in India, China and Africa, the author gives a wealth of informa-

tion in simple, interesting and logical style and bearing the stamp of authority. It is well illustrated by photographs, for the most part from India and Africa, showing how much more ghastly the disease is in the far East than what we have been accustomed to see at Carville and Molokai.

His figures, too, are rather appalling. He states that the case incidence is approximately 3,540,000, as estimated by surveys completed to date but adds that the exact number would be nearer 5,000,000, considering the large areas of China, India, Africa and South America yet to be surveyed. Of the 1,200,000 known cases in India, a mere 3,380 are under care in any sort of leprosy institution. Such figures indicate the need of greatly augmented forces to combat this scourge.

The book is divided into three parts: Part I. The Nature of Leprosy; Part II. Diagnosis and Treatment; Part III. The Anti-Leprosy Campaign. Some interesting and informative pages are devoted to the rationale of the new and simple classification into lepromatous, uncharacteristic and tuberculoid, adopted by the Pan-American Congress at Rio de Janeiro in 1946. Especially good are the sections on gross and microscopic pathology; treatment by oil of Hydnocarpus (chaulmoogra) in contrast to that by the lately used sulphones; a description of the aids and hindrances offered to surveys and clinics by the peculiarly paradoxical customs and tabus among the African tribes.

Although not of great practical interest in our humdrum daily practice, its interest lies in being an excellent treatise on a subject relatively little known to most of us. To those in whom the spirit of the medical missionary is a living force it will be an added incentive to join the fight against "that sickness that maketh the leper not see much in terror of dying as in terror of living."

H. P. Sawyer, M. D.

AMERICAN MEDICAL ASSOCIATION NEWS

DOCTORS FOR THE ARMY

The medical departments of our armed forces, and particularly the Army, confront a crisis. The new Selective Service Act has established a peacetime army and air force at approximately five times the size of the prewar military establishment. Estimates indicate that they must have 4,000 more doctors by June 1949. However, possible economies may diminish this need slightly. None of the physicians needed is obligated by any existing law to volunteer or to serve in the armed forces. The special need of the armed forces, as

pointed out by Surgeon General R. W. Bliss in this issue of *The Journal* (J. A. M. A., September 25, 1948), is its requirement for specialists. Today in many of our leading Army hospitals abroad young men who have hardly had an adequate residency are in full charge of medical, surgical, obstetrical and other highly specialized departments.

The House of Delegates of the American Medical Association established the Council on National Emergency Medical Service as a body to be especially concerned with meeting the needs of the nation for physicians in times of emer-

gency. War today is total war. The needs of civilian populations and particularly of great industries, which are the backbone of war, must also be considered. Nevertheless, the men who do the actual fighting, who fly the planes, who get the foods and supplies up to the front and who carry the banner of the United States all over the world must have the highest possible quality of medical service in order to keep fit and efficient. The provision of the best medical care to our armed forces is one of the most economical steps that the nation can undertake. It lessens the total demand for men, and it maintains the morale and the spirit of the men more than any other single factor involved in modern war.

The Council on National Emergency Medical Service, the procurement divisions of our armed forces, the headquarters of the Army and Navy and Air Force have all been desperately concerned during the last few months with meeting the nation's need. Every possible approach to the problem has been considered. Now that compulsory service for physicians has been denied by the Congress, the needs must be met by other technics. Obviously the first step is to make the service more and more attractive to the young men so as to encourage volunteering by greater and greater numbers. A recent somewhat casual survey of the young men now in the service who will be leaving at the end of two years of service indicates that the following factors must be given consideration to attracting them for longer periods:

1. The service must be sufficiently varied so that the deadly routine of day by day dispensary service of many months does not destroy the young man's initiative.

2. At least one half of the young men now in the armed forces want ultimately to qualify for certification by some specialty board. Some means must be found whereby service in military installations can be reckoned as a part of the young man's development leading toward certification.

3. Except in the most remote areas young men may be kept in contact with some of the best teachers in American medicine. Already a steady stream of qualified consultants is visiting our Army hospitals throughout the world, and the men who are taking charge of the services in these hospitals are having more opportunity for extended contact with the leaders in the various medical specialties than most of the men who remain in the United States. All that appears to be needed is some arrangement for the development of a systematic course of instruction rather than casual ward talks.

Thus most of the objections can be met by competent planning. While the young men prefer to be rotated from one service to another at fairly frequent intervals, several difficulties have developed in this regard. First is the housing of young men, many of whom are married and are already en route to the development of families. One colonel in charge of a hospital of many hundreds of beds in Germany said that there would be no problem for the Army medical department

if all the young doctors would remain bachelors until they had completed their military service. The housing of young physicians and their families, as can easily be seen, is one of the most difficult of the problems that confront the armed forces.

A specific provision in the Selective Service Act states that a man may not be inducted into the armed forces until provision has been made for adequate medical care. That was the intent of the Congress. There is no reason to believe that the Congress will withdraw from the intent. There is actually reason to believe that the Congress will make that intent fully effective by some type of compulsory selection of young physicians unless these young men come forward to fulfill their obligation as citizens and particularly as physicians. They are not being asked to do any more than is being asked of any other person in our population.

... The profession of medicine places on the young men who choose it as a career a great responsibility. They are not asked to venture their lives in war to the same extent as are other young men in the population. They are asked instead to put other young men into the best possible condition to meet the need and to salvage the human wreckage so far as possible when war actually begins. The medical profession of the United States has a record enviable beyond that of any other medical profession in the world for what it has accomplished when the nation called. Let us realize that now we can no longer wait until the enemy is at the gate. The time to prepare is in advance of the struggle, and the call has come.—*Journal of the American Medical Association*, Sept. 25, 1948.

Infant Nutrition—It is now customary to start solid foods by the second or third month. Most infants will receive fruit sauces well but many will reject cereals. Since the feeding process should always be pleasant for the baby and the mother, I give fruit sauce first, starting with small amounts and gradually increasing them. Another advantage of fruit sauce over complex foods such as cereal mixtures is that fruit sauce is a single substance rather than a mixture of many substances. This is important when an allergic rash makes it necessary to identify the offending factor. New foods should always be introduced one at a time and in small amounts which may be gradually increased. After a food has been given for five days in liberal amounts and no allergic rash has appeared, it is unlikely that the child will have any allergic difficulty with that food. He is then ready for the trial of one other new food, but only one at a time.

Sooner or later a food will be introduced that displeases the child and he will spit and gag. Such a food should be withdrawn promptly as no one food is worth a fight. If that same food is offered some weeks later, especially at a time when he is hungry, it may be eagerly accepted not only then but thereafter.—*Gibson, Texas State J. Med.*, Sept. '48.

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THE USE OF ANTIBACTERIAL AGENTS IN VIRAL RESPIRATORY TRACT INFECTIONS

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Man's most frequent type of illness is a group of febrile diseases of the respiratory tract, chiefly its upper part, commonly called colds, grippe, catarrh, or influenza. The average human is said to suffer from this type of disease from one to four times a year. In two industrial groups observed by one of us, respiratory tract disease constituted about 37% of non-occupational illness for which these otherwise healthy men consulted their plant physicians.¹ Reiman² indicates that these infections account for 32% of the home visits and 15% of the office visits in general practice and for more lost time from industry and school than all other illness combined. Our interest arose from the observation that sulfonamides and penicillin are frequently used in these patients in the hospital although this treatment is not in keeping with current thought about the cause of the diseases.

Read before the Association in annual session, Mobile, April 15, 1948.

From the Department of Medicine, The Medical College of Alabama.

1. McLester, James B.: Unpublished Observations on Two Groups of Five Hundred Men Each for Four and Six Years, Respectively, 1934-1940.

2. Reiman, Hobart A.: Viral Infections of the Respiratory Tract, J. A. M. A. 132: 487 (Nov. 2) 1946.

All of these disorders are thought to be viral in origin although only the influenza virus has been isolated. Each type of virus may have predilection for one area of the respiratory tract. However, each may also cause manifestations in other areas, with considerable variation from case to case, and clinical differentiation is therefore impossible. Such difficulty in clinical separation has led to a multiplicity of non-specific diagnoses based on the location of the manifestations rather than on etiology. Manifestations may include the nasal congestion and discharge of the common cold, pharyngeal, tonsillar, and laryngeal inflammation, bronchitis, tracheitis, and pneumonitis, each of which may occur singly or in combination, with or without fever or constitutional symptoms. Secondary to these primary diseases may come purulent infection of accessory sinuses, middle ear, or the involved areas of the respiratory tract.

The highly variable treatment given these patients often includes sulfonamide, penicillin, or both, despite the fact that neither of these antibacterial agents has any theoretic value in a viral disease. In planning the treatment of these patients on the ward under our supervision at the Jefferson-Hill-

man Hospital in Birmingham, we hesitated to ignore a generally followed therapeutic custom and at the same time also hesitated to prescribe drugs of no theoretic value and some possible harm. We attempted, therefore, to analyze the results of this treatment on all services in the hospital during the last three years.

In 1945, 1946 and 1947, 569 patients were discharged with the diagnoses, common cold, nasopharyngitis, pharyngitis, laryngitis, tracheitis, acute bronchitis, or influenza, without recorded diagnosis of other respiratory tract or related disorder that would complicate this study. It was felt that all of these were manifestations of the disorders under discussion. Distribution by diagnosis and year was as shown in Table I. These patients were not a major part of the hospital's load as they represented only about one per cent of total admissions and one half of one per cent of patient days in the hospital during this period. They constituted an appreciably larger fraction of the private patients than they did of those on the charity services, and were treated by a large number of physicians. Age distribution was spread over the entire scale from a few weeks to 80 odd years, with about 1/3 below school age; 56% were female, 44% male; 75.5% were white, and 24.5% were colored; 65.7% were private patients, 34.3% charity. There was definite seasonal distribution with about four times as many admissions in December, January and February as there were in June, July and August.

TABLE I
DIAGNOSES, BY YEARS

Diagnosis	1945	1946	1947	Total
Common cold	98	76	91	265
Acute bronchitis	36	51	38	125
Influenza	27	27	25	79
Pharyngitis	13	18	19	50
Laryngitis	11	14	13	38
Nasopharyngitis	5	7	9	21
Tracheitis	6	8	4	18
Totals	196	201	199	596

Complaints were manifold but fever or feverishness was most often mentioned (62.5%); cough was almost as frequent (56.4%). Also common were malaise (36.3%), sore throat (28.6%), anorexia (27.1%), chill or chilliness (21.7%), and headache (20.0%). To a considerable degree, the symptoms dictated the diagnosis,

in that most of those diagnosed tracheitis or bronchitis complained of cough, and, similarly, nasal symptoms predisposed to the diagnosis of the common cold or nasopharyngitis, sore throat to pharyngitis, hoarseness to laryngitis, and malaise to influenza. However, there was no constant characteristic of the symptoms and findings recorded to separate the various diagnoses. Physical findings were minimal. Eighty (80) per cent had a temperature of 99° or above on admission and an additional 10% with initial normal temperatures showed fever later. Ten (10) per cent had no fever while in the hospital. A third (36.7%, mostly children) had temperatures of 102° or above. Most had normal temperatures after the third day. None had fever for longer than 8 days. The average stay in the hospital was 4.4 days.

TABLE II
FEVER AND TREATMENT
Number of Patients

Maximum Temperature	Untreated	Treated with Sulfonamide	Treated with Penicillin	Treated with Both	% Treated
Under 99.0	32	7	15	3	44%
99.0-99.9	47	21	37	5	57%
100.0-101.9	57	47	71	26	72%
102.0	28	97	48	30	87%
Whole group	164	172	171	74	72%

Table II shows the total number of patients, separated according to treatment and maximum temperature. About 72% of the patients on both private and charity services were treated with sulfonamides, penicillin, or both, but the proportion of private patients getting penicillin was about twice that of the charity group. We estimate that the group as a whole was given well over 5000 grams of sulfonamides and 150,000,000 units of penicillin. Fever was the apparent indication for use of these drugs for, as the maximum temperature increased, a progressively larger proportion of patients was treated. However, some with no fever in the hospital got one or both drugs while others with temperatures of 102° or higher got neither. The number of patients in each group is generally sufficiently large to make statistical differences significant.

No mention of toxic manifestations to these drugs was included in any formal discharge diagnosis and the records were too

heterogeneous and incomplete to allow us to evaluate the frequency of drug reactions. The potential ill effects of sulfonamides on skin, liver, and kidneys are well known as are the urticaria and edema that may follow the use of penicillin and need not be mentioned further here.

The records also gave too little information to allow evaluation of results on the basis of the resolution of symptoms and findings other than fever. However, as fever was the most frequent finding and was common to all diagnoses and as it seemed to be the usual basis for treatment we felt that the course of the patient's temperature would be a satisfactory index of the course of the disease and efficacy of treatment.

TABLE III
FEVER AND TREATMENT

	Untreated	Treated
Total cases with fever.....	132	392
No. with rise in temperature after admission.....	55	177
% with rise in temperature after admission.....	42%	45%

Table III shows, for each group, the number and percentage of patients in whom the temperature on admission was not the highest reached, patients whose fever occurred or increased after admission to the hospital. There is no significant difference in favor of the treated group. Those patients receiving no specific antibacterial treatment were no more apt to have further increase in fever than were those who were treated.

TABLE IV
FEVER AND TREATMENT
Days of Fever

Maximum Temperature	Untreated	Treated with Sulfonamide	Treated with Penicillin	Treated with Both	All Treated Cases
Under 99.0	0	0	0	0	0
99.0-99.9	1.3	1.2	1.6	1.3	1.4
100.0-101.9	2.1	1.8	2.0	2.5	2.1
102.0	2.8	2.4	2.5	3.1	2.7

Table IV shows the average duration of fever in days. There is a definite relation between the height and duration of fever in all groups, treated or untreated. We feel that, from the identity of the duration of fever in treated and untreated cases in each temperature range, one can but conclude that the duration of the fever in these pa-

tients was in no way shortened by the treatment with these agents.

TABLE V
LEUKOCYTES AND TREATMENT
PATIENTS WITH FEVER

Leukocyte Count	Untreated	Treated with Sulfonamide	Treated with Penicillin	Treated with Both	% Treated
Under 6000	40	13	23	10	70%
6000-9000	44	47	32	17	69%
9000-12000	27	37	37	9	76%
Over 12000	21	30	42	26	82%
Whole group	112	127	136	62	74%

It has been suggested that sulfonamide or penicillin be given to patients with these viral diseases as a prophylactic against secondary purulent infection³ or when there is leukocytosis and fever.⁴ However, we found no statistics on the frequency of purulent complication with and without the prophylactic use of these agents. Where recommended, it seems to us to be purely on empiric reasoning. We attempted to shed some light on this question by study of those patients with leukocytosis and fever. In Table V, patients with fever are grouped according to both treatment and leukocyte count. To a slight degree, there was a greater frequency of treatment as the leukocyte count increased beyond 9000, but still 70% of the patients with a leukopenia got at least one of the drugs. The groups are again large enough to give significant statistics. In Table VI the average duration of fever

TABLE VI
LEUKOCYTES AND TREATMENT
Average Days of Fever

Leukocyte Count	Untreated	Treated with Sulfonamide	Treated with Penicillin	Treated with Both	All Treated Cases
Under 6000	2.2	1.7	1.6	2.1	1.7
6000-9000	1.8	2.2	2.6	2.5	2.4
9000-12000	2.1	2.1	2.2	3.3	2.3
Over 12000	2.3	2.0	1.9	3.1	2.2
Whole group	2.0	2.1	2.0	2.8	2.2

3. Rammelkamp, Charles H., Jr., and Dingle, John: *Acute Respiratory Diseases*, M. Clin. North America 31: 1368 (Nov.) 1947.

4. Spink, W.: *Sulfanilamide and Related Compounds in General Practice*, Chicago, Yearbook Publishers, 1942, cited by Pullen, Roscoe, L., M. Clin. North America 31: 1322 (Nov.) 1947.

in these patients is shown. Again, there is no difference in the duration of fever in favor of the treated group. There is no increase in length of illness where the white count is higher.

It was necessary to exclude from this study those patients with complications as the hospital records did not allow conclusion as to which developed them after admission. We have no direct data, therefore, as to the incidence of secondary purulent complication and its control by drugs. On the other hand, we have some suggestive data. Although the members of this group are thought to be of viral origin and therefore should have at least a relative leukopenia, only 16% had a true leukopenia with leukocyte counts below 6000 and only half of the group had a white cell count below 9000. The others had a definite leukocytosis. Ziegler and associates⁵ indicate that the etiologic agent of acute respiratory infections can be quite varied and not immediately apparent without detailed bacteriologic and serologic study. Though they are referring largely to those affections involving bronchi and lung parenchyma, it is probable that this also applies to the upper respiratory tract. Some of the organisms discussed by them produce a leukocytosis, and are sensitive to the therapeutic agents under discussion. On this basis, then, one might assume the leukocytosis seen in half of our patients to indicate bacterial invasion, either as the primary infectious agent instead of the supposed virus or as a secondary invasion in a viral disease, possibly with complications not named in the final diagnosis. If one makes this assumption, then Table VI tends to show that sulfonamides and penicillin have no effect on those diseases in this group associated with leukocytosis or on secondary bacterial invasion not sufficiently severe or localized to justify separate diagnosis.

We realize that non-use of these two substances would have removed the specific therapeutic effort made in over 70% of this group of patients. However, we consider it wiser to treat this type of disease only with supportive and symptomatic measures instead of using potentially harmful drugs of

no clearly demonstrable value. We have made no studies of the efficacy of the many other measures commonly used in the treatment of a cold. Most of them are unphysiologic and a number have been demonstrated to be valueless. Some are even harmful. Reiman¹ has published a very excellent, exhaustive, and unusually well documented critique of the whole situation in which he justifies this opinion.

We also reviewed the records of all patients who, during this same period, were discharged with a diagnosis of pneumonia. An attempt was made to separate them into those with a virus infection and those with pyogenic infections in order to contrast the results of treatment. This was done to demonstrate that primary atypical pneumonia is simply another manifestation of the virus that also attacks the upper respiratory tract and should be treated similarly.² But 43 (6.5%) of 659 uncomplicated cases studied had a final diagnosis of virus or primary atypical pneumonia, whereas 133 (20.2%) had leukocyte counts not exceeding 9000 per cubic millimeter and 115 of these (17.5% of the total) also did not initiate their illness with the chill more typical of the pyogenic infections. These latter most probably had virus infections. However, only six of these patients received no sulfonamide or penicillin. There was, therefore, no adequate control group of cases with which the reported⁶ lack of value of these antibiotic agents could be demonstrated. From retrospective study, 109 (115 less 6, 16.6%) were given antibiotic agents without rational indications.

Thus, we conclude that sulfonamides and penicillin are of no value in the primary treatment of the respiratory tract infections that are variously called cold, grippe, influenza, viroid, naso-pharyngitis, acute bronchitis, etc. We have no data on the effectiveness of the drugs in the prevention of complications but we do conclude that leukocytosis alone is not an indication of the pres-

6. Dingle, John H., and Finland, Maxwell: Virus Pneumonias. II. Primary Atypical Pneumonias of Unknown Etiology, *New England J. Med.* 227: 378 (September 3) 1942.

McDonald, John B., & Ehrenpreis, Bernard: The Clinical and Roentgenographic Manifestations of Primary Atypical Pneumonia, Etiology Unknown, *Ann. Int. Med.* 24: 153 (February) 1946.

5. Ziegler, James R.; Curren, Edward C.; Mirich, George, and Horsfall, Frank L., Jr.: Diagnosis of Acute Respiratory Tract Infections, *Am. J. Med. Sc.* 213: 268 (March) 1947.

ence of a complication that indicates treatment with these agents. When this lack of therapeutic value is added to the known dangers of the drugs, we feel that these

antibacterial agents should be given to patients with respiratory tract infections only when there is reasonable evidence of infection with bacteria sensitive to such therapy.

DIABETES IN RELATION TO OTHER MEDICAL PROBLEMS

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The relationship of diabetes mellitus to other medical problems is inclusive of all the diseases we daily face. It is the management of insulin deficiency and nutrition in an otherwise sick individual. In the present Hagedorn era of diabetes the problems of the diabetition differs only statistically from the early Naunyn era, into the Allen, and through the Banting-Best, in the diseases that affect the diabetic. Where the chief cause of death in the diabetic was altered by the discovery of insulin to become tuberculosis, it has today become the degenerative changes in the vascular system we must fight.

In this paper, which is a brief review from the current literature, the attempt will be made to discuss various diseases as they complicate the management of the diabetic. We find diseases in the patient with diabetes not only masked in their diagnostic features but altered in their usual course.

Statistics recently compiled by Millard and Root¹ at the George Baker Clinic, on 110 autopsies performed between 1940 and 1945, showed vascular conditions to be the primary cause of death in diabetics. As a secondary cause of death was listed infections, thirdly carcinoma, fourth came diabetic complications per se, and the remainder were a few miscellaneous conditions like cirrhosis of the liver and fractures. This paper will avoid the guide that such statistics would indicate. Time will be given to the problems we all are likely to confront and to the newer developments in the field.

Read before the Association in annual session, Mobile, April 16, 1948.

1. Millard, Ernest B., and Root, Howard: Degenerative Vascular Lesions and Diabetes Mellitus, *Am. J. Digest. Dis.* 15: 41-51, 1948.

As already mentioned, the primary cause of death in the diabetic is vascular complications. This is also the one condition that is absolutely uncontrolled. Insulin has enabled persons with diabetes to live long enough to develop degenerative complications. Present day chemotherapy has reduced infections as a complicating factor. In the series of Millard and Root, referred to above, one of the most striking facts elicited was the severity of vascular pathology found in the younger patients dying with diabetes of long duration. They showed far advanced arteriosclerosis and coronary occlusion, degenerative renal sclerosis and even gangrene. A graphic picture was shown on autopsy of twelve diabetics who suffered onset of the disease before the age of twenty. Of these, five who died within six years of onset revealed no vascular pathology. The remaining seven who lived fourteen to twenty years after becoming diabetics exhibited severe vascular degeneration throughout the body.

Marked vulnerability of the kidney has been long noted. A few words will be given to the diseases grouped under this portion of the vascular system. Fundamentally the renal system is but a part of the vascular system and it is therefore involved in the wake of the degenerative vascular complications. Evidence of nephritis has been found in fifty-two percent of the autopsies reported by Millard and Root.¹ The commonest form of nephritis in the diabetic appears to be arteriolar. With this picture is usually seen hypertension. Inter-capillary glomerulosclerosis has been widely reported since being described under the syndrome of Kimmelstiel-

Wilson.² Some writers have gone so far as to describe this syndrome's pathological findings as being more specific of diabetes than hyalinization of the islands of Langerhans. It is safe to say that the incidence of these findings is dependent on the duration of the disease.³ Some diabetics may show a typical picture during life of nephrosis and later renal failure^{4,5} but often diagnosis is not made during life.⁶ With diabetes the concurrent picture of pyelonephritis can be frequently found. Often at autopsy healed lesions of pyelonephritis are found, which is interesting for infection to clear without its presence having been known. As a cause of death, pyelonephritis is still prominent.⁷

Pulmonary tuberculosis can be defined as an infectious and contagious disease of the lung caused by an acid fast bacillus but extremely prevalent among diabetics. The question of causal relationship hinges between lowered resistance of the diabetic and/or poor control of the hyperglycemia, favoring a growth of the bacilli. Hyperglycemia may impair the normal reparative tissue processes and the resistance to infection. An alteration in fat metabolism with an increased availability of glycerin may be another factor.⁸ Combined with altered fat metabolism may be a deficiency of the oil soluble vitamins A and D. Those diabetics frequently in coma show a high incidence of pulmonary tuberculosis. Is acidosis a factor in increasing the virulence of the tubercle bacillus? In the great percentage of cases the disease has made its appearance in the fifth decade but in the general population we see the onset of pul-

monary tuberculosis in the second or third decade. Does this not suggest that the tubercle bacillus made its entry and became established on account of a preexisting diabetes mellitus?

It was reported in 1833 by Windle,⁹ in a series of 333 autopsies on diabetics, that over fifty percent showed pulmonary tuberculosis. Twenty-nine years later the incidence was reported as twenty-four percent by Montgomery,¹⁰ and in 1924 a series by Fitz¹¹ revealed only twenty percent incidence. Interest in this dual condition increases among the phthisiologists, for the cause of death has not been due to diabetes per se. This is difficult to explain the facts. In diabetics with pulmonary tuberculosis some fifty percent show cavitation.¹² The lesions are frequently described on x-ray as "butterfly" type, with the exudative process spreading from the hilus and leaving the apex and base uninvolved. Without involving serous structures other than the pulmonary pleura, there is a high incidence of pleural adhesions.¹² There is not an unfavorable prognosis for the diabetic with phthisis. Success in treatment of this difficult problem hinges not only on early diagnosis but the careful management of the diabetic state.

It is illogical to include pregnancy as a kind of disease complicating diabetes but it is a problem in the diabetic field. Despite the failure of the diabetic to conceive in the Naunyn¹³ era, since 1922 the fertility of the controlled diabetic is proven. Thus another medical problem confronts the diabetitian. The maternal mortality has never been high but fetal wastage has been the great problem. The creditable work of Priscilla White over the past ten years has given great hopes to the pregnant diabetic. The diabetic in child bearing age has seldom far advanced manifestation of vascular disease. Most

2. Kimmelstiel, P., and Wilson, C.: Inter-capillary Lesions in the Glomeruli of the Kidney, *Am. J. Path.* 12: 83, 1936.

3. Laipply, T. C.; Eitzen, O., and Dutra, F. R.: Inter-capillary Glomerulosclerosis, *Arch. Int. Med.* 74: 354, 1944.

4. Derow, H. A.; Altschule, M. D., and Schlesinger, M. J.: The Syndrome of Diabetes Mellitus, Hypertension and Nephrosis: *New England J. Med.* 221: 1012, 1939.

5. Newberger, R. A., and Peters, J. P.: Inter-capillary Glomerulosclerosis, *Arch. Int. Med.* 64: 1253, 1939.

6. Bell, E. T.: Renal Lesions in Diabetes Mellitus, *Am. J. Path.* 18: 744, 1942.

7. Sharkey, T. P., and Root, H. F.: Infection of the Urinary Tract in Diabetes Mellitus, *J. A. M. A.* 104: 2231, 1935.

8. Gauld, W. R., and Lyall, A.: Tuberculosis as a Complication of Diabetes Mellitus, *Brit. M. J.* 4506: 677, 1947.

9. Windle, B. C. A.: Diabetes Mellitus and Tuberculosis, *Dublin J. Med. Sci.* 74: 112, 1833.

10. Montgomery: Diabetes Mellitus and Tuberculosis, *Am. J. Med. Sci.* 144: 543, 1912.

11. Fitz, Reginald: The Problem of Pulmonary Tuberculosis in Patients with Diabetes, *Am. J. Med. Sci.* 18: 192, 1930.

12. Melvin, J. P., and Englehardt, H. T.: Observations on the Treatment of Diabetes Mellitus, Complicated by Pulmonary Tuberculosis, *South. M. J.* 39: 64-66, 1946.

13. Naunyn: *Der Diabetis Mellitus*: Wien: Alfred Holder, p. 234.

fetal deaths have been shown to be due to hypo-ovarianism.

At the onset of diabetes, endocrine balance is normal but with increasing duration of the disease there is a drop in excretion levels of 17 ketosteroids and normal or high titer for FSH (follicle stimulating hormone). This suggests normal pituitary function with gonadal failure. At post mortem poor follicular development has been shown. Thus we must accept the diabetic female, of some years duration, as a physically and gynecologically aging individual, despite the appearance of youth and vigor.

Without discussing the fetal abnormalities, an attempt will be made to lay down rules for the management of diabetic pregnancies from a medical point of view. Diet includes supplementary vitamins, A, B, C, D, E, and K. The caloric intake is based on the increasing weight, allowing 30 calories per kilogram, with carbohydrate of some 200 grams, protein allowance of 2 grams per kilo and sufficient fat to complete the given requirements. Hazardous pitfalls in insulin requirements are best avoided with administration based on blood sugar levels. In pregnancy the renal threshold is lowered. The requirements for insulin will be found to increase for each trimester.

Chemical management requires ammonium chloride in large doses to eliminate some of the water retention that results from fluid imbalance. Abnormal weight gains are the rule. Further help can be obtained in limiting the sodium intake.

To minimize the hormonal deficiencies and the resulting prematurity or giantism, a weekly therapeutic routine must be followed. Laboratory determinations of hormonal balance are not practical in the vast majority of cases. The history, in a pregnant diabetic, of previous obstetrical accidents or periods of amenorrhea, menorrhagia or chronic cystic mastitis makes hormonal therapy indicated.¹⁴

Parenteral hormonal therapy appears to give superior results as compared with oral therapy, with no evident variations in the natural or synthetic estrogens. After four months of pregnancy it is recommended by Priscilla White that Stilbestrol and Proluton be administered at least every other day as

follows: Five milligrams of each until the sixth month when dosage is increased to ten milligrams. Each month the increase is five milligrams until the eighth when the estrogenic is given in twenty-five milligram doses and the Progesterone is maintained at twenty. In the final month doses of both are variable but amounts up to fifty milligrams of each are occasionally necessary. Large doses of these drugs are well tolerated. Treatment with hormonal drugs must be begun promptly, given in the recommended doses, and doubled during bouts of fever, if successful termination is to be expected.

Termination is recommended in the last month of pregnancy. Cesarean section is probably the most popular, in the thirty-eight week. Restraint in the use of preoperative sedation and the use of a spinal anesthetic bears the best results statistically. Maternal nutrition and fluid balance are maintained with two liters of five percent glucose in distilled water and warm liquids by mouth, for two or three days, and then resumption of normal diabetic diet.

This is an era of therapeutic miracles. When we seek out the recent advances, we see progress has been made in the treatment of the diabetic and concurrent or intercurrent afflictions. Our greatest hope is for control of the ketabolic processes that make vascular pathology the number one cause of death in the diabetic.

Streptomycin and Tuberculosis—The administration of the drug may be intramuscular, intrathecal, intrapleural, intraperitoneal, intravenous, aerosol, topical application and by oral routes. The interval between doses has been lengthened to twelve hours with apparent satisfactory results. The drug may also be given intravenously but this route has no known advantages. The average time of administration is from three to six months.

Streptomycin is contraindicated at the present time for the treatment of chronic fibroid or fibrocaceous pulmonary tuberculosis, apparently terminal types of destructive pulmonary tuberculosis, or any early case of pulmonary tuberculosis with an otherwise favorable prognosis.

Toxic reactions are an important consideration. Although no deaths have occurred that were attributable to streptomycin, certain reactions and hazards require attention. The most important encountered has been damage to the eighth nerve, with vertigo occurring in all of our small series of cases. It may vary from mild dizziness to an extreme vertigo with incapacity for movement. None of ours proved to be permanent.—*Aven and Cruise, J. M. A. Georgia, Oct. '48.*

14. Joslin, Root, White, Marble and Bailey: Treatment of Diabetes Mellitus, Lea and Febiger, Philadelphia, 1946.

SPECIALIZATION IN THE GENERAL PRACTICE OF MEDICINE

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The opinions expressed in this paper have been formulated primarily from talking with our undergraduate medical students, young doctors returning from war, and those seeking specialty training.

The purpose of this discussion is to point out the condition of the general practice of medicine, to emphasize the lack of general practitioners, to deplore the over-specialization of our doctors, to indicate some of the reasons for this, what is being done about it, and to outline some steps that might aid in the correction of the situation.

There is no doubt that Alabama, as well as all other states, suffers from a lack of general practitioners. There are many small towns and communities in this state that are unable to secure the services of a doctor. It is well known, of course, that any doctor who settles in a small town must, by necessity, do general practice. He cannot engage in specialty work under such conditions. The lack of physicians in smaller communities can be almost directly attributed to the lack of men who have trained and are preparing themselves as general practitioners. This is a national problem and is not peculiar to Alabama alone but it is far worse in our own state because of the relatively low economic level.

It would be pertinent at this point to inquire why our young doctors do not wish to settle in small towns and communities. There is no single reason for this attitude but the causes are multiple. The young doctor of today feels very distinctly that he is mentally incapable of attaining a high degree of proficiency in all types of medical and surgical practice. He has a natural desire to be thorough in his work and consequently he specializes. Furthermore, the young doctor is certainly unwilling, if he can avoid it, to practice his profession in communities where the necessary tools and facilities do not exist for a modern scientific practice. Our young men are taught in

medical school to employ the most modern and scientific instruments and equipment of precision and to utilize the services of groups of assistants who are skilled in the various auxiliary technics. He realizes very well that these are not available to him in the small communities and this accounts, to a large degree, for his reluctance to enter general practice. Furthermore, the young doctor views with considerable trepidation a professional life whereby his scientific and professional contacts will be few and limited in number. These undoubtedly are primary reasons why the young doctor prefers to remain in urban communities. However, there are other contributory reasons that may in some cases be equally as important. Some of our young doctors tell me that they have been raised in the country and that fact alone makes them wish to live in the city. This feeling should be taken into account when we award scholarships to country boys with the expectation that they will return there for practice. Furthermore, the young doctor wishes to enjoy certain advantages of urban life, particularly those that might be available to his wife and children. The doctor also has a natural desire to avoid the many hardships that are known to be the lot of the general practitioner who has no control over either the type of his work or the time of day in which he must do it.

In the course of his medical education the young doctor has been brought in almost constant contact with specialists of every type. He forms an attitude of hero-worship, an attitude of admiration and respect for his teachers. Consequently, he wishes to emulate them in so far as possible and the only way to do it is to become a specialist himself.

The young doctor also develops the idea that big city specialists charge high fees and make money relatively easily. He is reluctant to become a general practitioner because he knows that a great many of his best patients in his community will of their own volition go to the large city seeking medical advice. He also knows that he will

be forced to refer a second group of his best patients for the advice of specialists in many fields. Therefore, he feels that he becomes only a referring channel through which his best patients, economically speaking, simply pass on to the specialists.

All of these factors are so obvious to us all that even after the young doctor becomes established in general practice he goes through a period of years during which time his sole ambition is to quit practice and go away to specialize. Finally, as the years go by, he becomes so deeply rooted in his community, so bound by his practice and perhaps so advanced in years, that he gradually gives up the idea. Many of our young doctors go to the country to practice merely to obtain sufficient financial resources with which they can later specialize.

Oddly enough, many of the doctors who are general practitioners of years' standing constantly advise the younger men not to enter general practice. This is very common advice given from father to son. One of the finest general practitioners in Alabama, of forty years' standing, has raised and educated four sons who are doctors, and all four are specialists. They all say that their father has constantly advised them "not to lead the life of medical hardship that he has led."

In recent years most of our young men have been in military service and there again they have become impressed with the importance of specialty training. They have seen men move to higher rank and given the best medical positions in the military service because of their specialty training. Even the Veterans Administration offers added inducements and higher salary to men who are certified by their Boards. On all sides, the young doctor sees numerous advantages in specialization.

It would be pertinent to inquire at this point what allurements could be used upon a young doctor to prevail upon him to go into general practice? In other words, what are the advantages of general practice? It seems to me that there are several which are quite important.

First, all of us who practice in urban communities have the belief that the general practitioner in the smaller community is a man of far greater importance and is held in much higher respect and esteem than in his colleague in the city. Frequently, he is the

best educated man in his community. He, therefore, has opportunities to serve in positions of importance and responsibility in public life. A study of the accomplishments of the doctors who have died in any one year, taken from the reports of the American Medical Association, shows that small-town doctors have been not only physicians but important citizens and have played a large role in the conduct of public affairs in their communities. They frequently serve as members of school boards, mayors, legislators, and in other posts of public life. This is seldom seen among the physicians in the urban areas. I believe it is also true that the economic independence of the small-town physician is far more stable and assured than that of his urban colleague. It is well recognized that in times of depression the small-town physician remains in a position of relative security, for if his bills are not paid in money they are usually paid in services or commodities. In such times the economic state of the people does not permit them to seek the services of expensive specialists to any considerable degree. The more highly trained specialist, therefore, suffers first and the general practitioner last.

Without doubt, the most important advantage that accrues to the general practitioner is, or should be, the realization that he is the most important man in medicine. He is certainly closer to the people, he is more beloved by his patients, and he certainly has, or should have, a sense of satisfaction from the performance of real service and usefulness to the people of his community.

What is being done in this country today to provide more general practitioners? By and large very little is being done. The medical schools are still turning out just about the same number of doctors as they did before the War. The process of medical teaching has changed very little. About the only thing being done on a national level has been the institution of a plan of "glorification" of the general practitioner. Meetings of the American Medical Association, designed to give him postgraduate work, have been started. The awarding of a medal to an outstanding general practitioner by organized medicine has just begun and now we see the beginning of a further attempt at glorification by setting up certifying boards for

general practitioners, the main requisite of certification being that the certificate holder shall spend 150 hours a year in postgraduate work. All of these steps are very commendable, to be sure, and provide recognition to the general practitioner that is long overdue. But it will do little toward making more general practitioners and encouraging them to practice in smaller communities.

In view of the foregoing considerations, let us now turn our attention to some of the things that might be done that would lead to an increase in the number of general practitioners, not only in the state of Alabama but throughout the country at large.

First, the selection of medical students is an important consideration and this is a problem with which our medical schools are constantly confronted, that is, what type of student should be selected for training in medicine? We still continue to place major emphasis on the scholastic record of the student. This concept is well taken because it has been amply demonstrated that, with few exceptions, the boys who have high scholastic standing will do the best work in medical school and ultimately will make the best doctors. Scholastic standing, however, is not the whole story and the question always presents itself as to whether or not medical schools should give more thought to geographic considerations in selecting classes. The question, therefore, is whether or not a boy from the country should be selected over a boy from the city. What are the chances that the city boy will go to the country to practice medicine? It seems to me that there is very little chance that the urban boy will practice in rural areas. This has to be weighed against the chance of the country boy returning to the country and, as indicated before, there is no assurance that the country boy will do this. On the contrary, we have noted that he, too, is just as anxious to remain in the urban areas. The question frequently arises as to whether or not we should even go back to the high school level and study a boy's social background in an effort to determine what his prospects would be in returning to the country. Even if this were done, there is no guarantee that his social outlook would not change by the time he has reached graduation from medical school. I have not the slightest doubt that it would be possible to

fill medical classes with young men and women who would promise to return to rural areas for medical practice. This would certainly be true at the present time when we are turning down eight men for each one that we accept. As to whether or not such promises would be kept would be another matter.

Another method that is frequently employed to secure men for general practice is the awarding of scholarships. In Alabama we have a four-hundred-dollar annual scholarship from each county. However, there is no compulsion clause and the recipient is not required to return to his county for practice. His obligation is only a moral one and in talking with our students I have determined that the obligation is not regarded too seriously. It is my belief that the average medical student would not accept any kind of scholarship if it carried a compulsion clause determining the type of his practice or his location of practice.

As medical students are taught in their undergraduate years, there should be constant emphasis on the advantages of general practice. There should be constant emphasis on their obligation to the community and their social responsibilities in general. If the faculty of the school constantly emphasizes this, it may have the effect of encouraging young men to enter general practice. However, the student himself sees that it is a specialist who is giving the advice.

At the Medical College of Alabama we have been acutely aware of this problem, realizing that our institution is supported by tax funds and that our prime obligation is the training of general practitioners, if possible. In the selection of students we have attempted to train men from a wide geographic area throughout the state, giving preference to men from rural areas provided they are scholastically acceptable. Even so, this presents certain difficulties.

Those of us in education know very well that boys from the urban areas have frequently enjoyed better educational advantages than those from the rural areas. This places the rural boy under a handicap in his scholastic attainment in university work. All of these things have been taken into account in the selection of our students. We find that approximately fifty percent of our students come from urban communities.

For that matter, fifty per cent of the population live in urban communities so that would appear to be an equitable distribution.

At the time the student receives his M. D. degree, I wish to emphasize that he is then a free agent and the medical college can exert no compulsion whatever on the place that he may wish to practice, or upon the type of postgraduate training that he may seek to pursue. I wish to emphasize this point because our school is frequently called upon to send practitioners to certain towns and rural areas, and when we are unable to do so the institution is held accountable. No medical school can dictate to one of its graduates where he will practice medicine. This is still a country of free enterprise and the young doctor can go where he chooses.

We are giving careful consideration to the institution of a two-year rotating internship, instead of the one-year program that we have at present. After a young man has spent two years in rotation, I believe that at this point he would be well trained for general practice and having spent two years would be more inclined to enter practice at that time. It is likely that we shall begin such a program in July 1949.

We also have under consideration the establishment of a ruling that would prevent the two-year intern from going into specialty training, and a second ruling that would offer the specialty training fields only to men who have been in general practice for a stipulated period of time. The natural effect of this would be to stimulate the two-year rotating man to enter general practice, to prohibit him from securing specialty training in our own institution, although of course he may go elsewhere, and by restricting training only to men who have been in general practice, we believe that that man will ultimately be a much better specialist because of his having had general practice.

Another approach to this problem is the question as to whether or not certain schools should direct their energies mainly, if not exclusively, to the training of general practitioners—that is to say, whether or not the postgraduate training potential of an institution should be pointed in that direction rather than its utilization in specialty training. Proposals have been made from time to time that such schools be established in this country which would offer no specialty

training at all. I should like to point out, however, that the effectiveness of a good teaching program is dependent to a considerable degree upon the young men who are in specialty training and who serve as instructors for the younger men at the intern level.

I believe that the most important thing that could be done to insure more general practitioners is simply the training of more doctors than we train at present. The output of the medical schools throughout the country is not a great deal more than it was before the War. A few schools have increased their enrollment to a point consistent with adequate and satisfactory instruction. It is my opinion that we need more medical schools, that the enrollments of the existing ones should be substantially increased, and that for a number of years we should be training fifty per cent more physicians than we are training at present. Former Surgeon General Thomas Parran constantly emphasized the desirability of this and has pointed out that we need about 30,000 more physicians in this country. However, this viewpoint has been questioned by the American Medical Association and other medical agencies.

As far as Alabama is concerned, if we graduate 100 doctors a year from the Medical College of Alabama, and, furthermore, if all of these remain in the state to practice, it will be nearly 25 years before the physician-population ratio will be equal to that of the national average. At the present time we are graduating only 50 doctors a year, this being restricted by physical limitations of our plant, and this number is sufficient only to compensate for the normal rate of attrition caused by death and retirement. Therefore, at this rate we are making no headway at all in providing more doctors for Alabama. It is important that we train far more than we are at present. It is for this reason that I have advocated that the state of Alabama construct state-owned teaching hospitals in both Montgomery and Mobile so that clinical schools can also be developed in these two cities.

When a sufficient number of doctors are trained, only then can we expect some relief for the people in the rural areas and smaller communities. Most of these will be general practitioners and economic pressure alone

will force most of these doctors into those areas. It has been my observation that the chief factor that causes a young doctor to locate in the country is an economic one. If competition in the urban areas is made stiff, then this fact alone becomes a large factor in men settling in the less populous areas.

Another step important in providing general practitioners would be for the medical schools to make available a large part of their resources for postgraduate work for men in general practice. If a medical school and its teaching hospital has only a certain potential reserve that can be directed toward postgraduate training, this reserve can be utilized in the training of specialists or in the postgraduate training of practitioners. I am convinced that too much of the potential has been utilized by schools for specialty training and that more of it should be for the general practitioner.

Another encouragement to men settling in rural areas would be the provision of adequate facilities and auxiliary personnel that would help him in his practice. It is this fundamental consideration that has led me to advocate the training of doctors' assistants, that is, young women who would be specifically trained to aid the doctor in his work.

Of equal importance is the fact that the public has not yet accepted its responsibility in providing physical plants and facilities that are necessary in the modern practice of medicine. It is too much to ask the young doctor to provide not only his professional skill but also the capital investment required for the modern practice of medicine. It would be like asking the school teachers to provide their school buildings and all of the appurtenances needed in education. There is no more reason for the young doctor to provide his own hospital and diagnostic plant than there is for him to provide the paved road on which patients may come to him. This, after all, is one of the important reasons why doctors do not go to rural areas. The public has failed in its responsibility to provide him the tools with which to practice medicine. Only when these things are done can we expect young men to enter rural practice.

I believe that the time has come in Alabama for public acceptance of this responsibility

and I wish to make it clear that the training of doctors alone will not make doctors go back to the country. Only the provision of these facilities will cause a flow in that direction. The fact that there is a shortage of doctors in the country is not the fault of the doctor—it is the fault of the public.

It seems to me that, in general, the people are not too happy about their relationships with medicine. In general, the country people are unhappy because they do not have doctors. A large percentage of the urban people are unhappy because many of them believe they are victimized by the overcharging specialists. If this is a correct evaluation of the situation, then we in medicine must look forward to some type of change in medical practice and relationships. We should remind ourselves that the public in this democracy eventually gets what it wants. If our people are unhappy because of their relationships with medicine, then it is up to us to do everything possible to correct the deficiencies that exist in medical practice. Anything we can do toward providing practitioners will be a step in this direction.

Finally, I must emphasize, however, that the modern practice of medicine is basically one of economics and that not only does the medical profession have a responsibility but the public also has an important responsibility in this question.

Antibiotics in Ophthalmology—In ophthalmology, the sulfa drugs are most effectively employed in acute external focal infections due to specific organisms which include the coccal group and the virus of trachoma. Intra-ocular infections transmitted through the blood stream are less influenced by sulfa and penicillin treatment. Generally speaking, the ocular indications for penicillin and sulfa therapy are approximately the same, though the former is preferred in the more acute and severe infections and the latter in the less severe. Both are frequently used at the same time. Locally, the sulfa drugs are most frequently employed as a 5 per cent sulfathiazole ointment and a 30 per cent sulfacetimide solution. The former has the advantage of longer contact. Ocular allergic reactions to the sulfa drugs are relatively infrequent as contrasted with local penicillin therapy. For this reason, use of penicillin ointment and drops is being largely discontinued in ophthalmology. The most efficient ocular use of penicillin is subconjunctivally, 2000 units per cc. As a dusting powder in infected wounds, and injected intra-ocularly the reports of its success and failure are conflicting.—*Bahn, New Orleans, M. & S. J., Oct. '48.*

PEDIATRIC CASE REPORTS

Edited by

AMOS C. GIPSON, M. D.

Gadsden, Alabama

CASE 1

ENCEPHALITIS

L. C.—AGE: Three Years

This patient was brought to the Children's Clinic with the following history:

She was normal until the night before admission when she became suddenly ill with vomiting and complaining of being sick. She was restless, slept very little, and had a convulsion about thirty minutes before arrival. Her temperature elevation was rapid and remained high all night. At the time of admission it was 104° (R).

Physical Examination:

Entirely negative.

Blood:

W. B. C.	9,900
Polys.	70%
Lymphs.	28%
Monos.	2%
Hb.	60%
R. B. C.	3,250,000

Spinal Fluid:

181 cells (predominantly lymphocytes).

Globulin (Pandy)—positive.

Culture—negative.

Treatment:

Sedative.

225 cc. citrated blood given intravenously.

The temperature dropped to normal within twenty-four hours and remained so.

CASE 2

ENCEPHALITIS

S. S.—AGE: 18 Months

This patient was well until three or four days before being brought to the Children's Clinic. During this period she developed nausea, vomiting and fever. The temperature fluctuated for three or four days ("came and went"). She was fretful, cried a good deal, and slept very little and irregularly.

At the time of admission, the temperature was 100-1/5° but it became normal within two days.

Physical Examination:

Entirely negative.

Blood:

W. B. C.	15,800
Polys.	25%
Lymphs.	65%

Monos.	10%
Hb.	70%
R. B. C.	4,200,000

Spinal Fluid:

100 cells (predominantly lymphocytes).

Globulin (Pandy)—positive.

Culture—negative.

Treatment:

Sedative.

Rest.

DISCUSSION

One mild and one severe case of encephalitis have been presented.

The important factors in these cases were the absence of neurological signs. The reflexes were normal and there was no stiffness or rigidity of the neck.

The low cell count, negative culture and prompt recovery rule out meningitis.

Newcastle's disease has to be considered but virus studies of the blood are required for confirmation.

Encephalitis is not a rare disease.

CONCLUSION

The only way many cases of encephalitis can be diagnosed in the early stages is to do a spinal puncture.

Blood or plasma given intravenously is the treatment of choice in the severe cases, while the mild cases need only rest, time and a sedative.

Scope of Plastic Surgery—It is unfortunate that the term plastic surgery has been employed to refer to maxillo-facial and reconstructive surgery. The nomenclature is confusing, and there has been no clear definition of the scope of plastic surgery for the information of the general practitioner, the various specialists, and the lay public. Reputable plastic surgeons are at the mercy of unscrupulous members of the profession who advertise themselves as beauty surgeons and also, unfortunately, of well-meaning journalists who so dramatize and glorify the possibilities of reconstructive procedures that plastic surgeons are made to feel like fools and charlatans in the eyes of their colleagues. During the war so much attention was given in various magazines to the treatment of massive avulsion wounds of the face that a great many people, doctors included, feel that all major plastic surgery is over until the next war. Actually the scope of such work is broadening all the time as new skills are developed and as surgeons understand more and more about the anatomy and physiology of the body tissues and their inherent possibilities for growth and transplantation in new environment. —Blocker, *Texas State M. J.*, Oct. '48.

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CHRONIC BRUCELLOSIS

"Only within recent years has chronic brucellosis (undulant fever) been recognized as an important cause of many common complaints of a chronic or recurrent nature. The most frequent symptoms are fatigability, myalgia, arthralgia, neuralgia, headaches, light-headedness, intractable eye fatigue, sweating, thermolability, myriad digestive dysfunctions, nasal catarrh or chronic sore throat or cough, tachycardia, nervous irritability, depression, insomnia or mental torpor and various disturbances of the reproductive system, especially in the female. The commonest physical findings, when there are any, are low grade, slightly enlarged liver, increased redness of mucous membranes, tenderness in the right lower quadrant of the abdomen, and a suggestive blood picture.

"The typical history is one of long duration, varied diagnoses, unsuccessful treatment, recurrent course, aggravation of debility following pregnancy, operation or influenza and, finally, a conclusion that the patient must be neurotic or the complaints functional or constitutional. The well known acute phase of classic brucellosis is often not discoverable in the history at all.

"It may seem incredible that such a disease could have been in the population for

many generations and yet have escaped detection and recognition as a common clinical entity. The reason is probably at least four-fold: 1. The laboratory procedures which usually detect the acute form of brucellosis more often give negative results in cases of chronic brucellosis. 2. The manifestations of chronic brucellosis are so varied that the disease is easily misdiagnosed as one of many other conditions which it may simulate rather well. 3. Organ diagnoses (cholecystitis, colitis, appendicitis, endometritis, sinusitis, arthritis) have too easily satisfied diagnosticians and surgeons. *Brucella* is capable of affecting any and every tissue of the body and, while it is true that foci of uncontrolled brucellar infection or secondary infection often monopolize the clinical picture, the organism is rarely confined to any one organ. Often it is only after the necessary extirpation of the focus that it becomes clear that the patient is still sick with a generalized low grade infection. 4. Man and *Brucella* have probably been living together since the early herdsman stage of civilization. There has been a close adaptation between the two, so that the human organism reacts but little to this invader, and the latter seldom destroys its host. The task of detecting or excluding brucellosis has presented a serious challenge to diagnostic research. This problem has been considered in previous publications. The development of an adequate therapy for brucellosis is a difficulty of equal magnitude."

The above is from the excellent article by Griggs¹ dealing with this subject of ever-increasing importance. Griggs summarizes his experience with 300 cases of chronic brucellosis treated since 1937. He states that "a safe and effective method of treating chronic brucellosis with oxidized brucella vaccine has been developed and is reported in this paper." Lack of space prevents further consideration of the new method of treatment here.

The California investigator has done well to call attention to the ramifications of brucellosis and to the persistence that it so often exhibits in the chronic state. It has been a good many years now since physicians became aware of the nature and wide geographic distribution of acute undulant

1. Griggs, Joseph Franklin: Chronic Brucellosis, J. A. M. A. 136: 911 (April 3) 1948.

fever in the United States. But knowledge as to the chronicity of brucellosis and of its many and various manifestations has unfolded much more slowly and it is quite probable that many practitioners are none-too-well informed in regard to these more recent developments. Therefore it behooves practitioners to bear brucellosis in mind and to heed the excellent advice given by Griggs. To do so will enable one to arrive at a correct diagnosis in many a difficult case and to avoid applying the term "neurotic" too quickly and often unjustly.

And the concluding paragraph of the author should also be borne in mind—"Brucellosis is not a self-limited disease. In the chronic stage, it shows little or no tendency to spontaneous recovery in adult life. Treatment, even at best, is difficult and uncertain in effect. However, specific vaccine therapy, modified as reported here, offers a significant advance in the treatment and prognosis of chronic brucellosis."

MENINGITIS LOSING ITS STING, ARMY REPORTS

Spinal meningitis, terror of World War I training camps, has today lost much of its menace, according to a report by Dr. Worth B. Daniels submitted through the Office of The Surgeon General of the Army and published in the Archives of Internal Medicine.

The report points out that less than three per cent died of some 14,500 soldiers treated during the World War II period for this once almost hopeless infection. The remarkably low death rate was due, Dr. Daniels said, both to the efficacy of sulfadiazine and penicillin in controlling the infection and to quicker diagnosis. Early diagnosis and the prompt use of the drugs can usually stop the spread of the bacteria before they have a chance to become localized in the linings of the spinal cord and brain.

Altogether there were about 300 deaths from meningococcal infection in World War II. Approximately ten per cent of these died before the germ had become localized in the nervous system tissues.

The war experience, Dr. Daniels says, shows that sulfadiazine is the best available drug. It is not as effective as penicillin against the bacteria in the blood stream but the latter drug proved to have one great disadvantage. While penicillin circulates

through the blood stream freely, it does not get into the cerebrospinal fluid in predictable quantities and hence cannot be relied upon to prevent invasion of brain and spinal cord tissues. Sulfadiazine enters the spinal fluid rapidly in high concentrations.

RED CROSS CONFERENCE RESULTS AT STOCKHOLM REVIEWED BY O'CONNOR

Broad steps towards peace and the humanization of warfare were taken at the 17th International Red Cross conference recently held in Stockholm, Sweden, according to Basil O'Connor, President of the American Red Cross.

Mr. O'Connor was head of the American government delegation which voted on certain revisions of treaties and is Chairman of the Board of Governors of the League of Red Cross Societies, a federation of 66 national organizations with a membership of more than 100,000,000.

"Some of the most important developments in the 86 years of Red Cross history took place at the Stockholm conference," Mr. O'Connor said. "One new treaty—that affording protection to civilians in war time—and revisions of three others were proposed and approved. In addition, many new resolutions were passed, most of them affecting the world-wide operations of the Red Cross, but one in particular that called upon nations to outlaw the atomic bomb."

That resolution, he said, was directed towards the use of "blind" arms "which cannot be aimed with precision or which devastate large areas indiscriminately, entailing the destruction of persons and human values which it is the mission of the Red Cross to defend. It adjures the powers to bind themselves solemnly to forbid recourse to such arms absolutely and also the use of atomic energy or of all forces for purposes of warfare."

The proposed new treaty and revised conventions will be laid before a diplomatic conference of the world's nations which will be called together by Switzerland—traditional home of neutrality—and which will approve or reject the proposals as matters of international law.

The proposed convention for protection of civilians in wartime forbids slave labor, deportations, reprisals and the taking of

hostages, Mr. O'Connor said. It also would set up protected hospital and security zones marked with the Red Cross and special protection would be given to children under 15, persons over 65 and the sick and wounded.

"So important did we think that resolution," Mr. O'Connor said, "that the conference urged all the powers to apply its principles immediately, without awaiting the signature of the governments to a formal agreement."

In the proposed revision of the Geneva treaty for the relief of the wounded and sick on the battlefield, Mr. O'Connor said that the chief change was in the status of military medical personnel. Under the present convention doctors have immunity when captured and are supposed to be returned home at once. Under the new convention medical personnel when captured may be detained by the captor in sufficient numbers to treat the sick and wounded of their own army who have been taken prisoner.

A resolution having to do with maritime warfare provided for changes in the marking of hospital ships, Mr. O'Connor said. Among the provisions is one for such ships to bear lighted Red Crosses.

He also pointed out that several proposed changes were made in the convention regarding treatment of prisoners of war, with the American viewpoint in many of these revisions adopted.

The American Red Cross and the U. S. Government achieved their goals in food rationing for prisoners of war—that the capturing power provide food in sufficient quantity, quality and variety to keep prisoners in good health and to prevent loss of weight and the development of nutritional deficiencies. Belligerents would be required also to facilitate shipment of relief consignments to the prisoners.

Mr. O'Connor said other proposed changes revise the standards under which prisoners of war may be put to work, and insist on immediate repatriation after cessation of combat.

"Throughout the conference," he said, "the American delegation insisted that in all discussions of Red Cross activities and undertakings the traditional non-political, non-sectarian, exclusively humanitarian character of the Red Cross be observed." As a result of a plea by the President of the American National Red Cross the conference

unanimously decided that the Red Cross should not under any circumstances combine with other societies in their activities although they should, of course, co-ordinate in their activities.

Regarding the Red Cross peace declaration, Mr. O'Connor said that "peace is not simply the absence of a state of war and it must be won by tireless exertion in varied fields of human activity. The Red Cross has as its primary function the relief of human suffering on an impartial basis. In discharging this responsibility the Red Cross offers to all men an opportunity for positive action to meet human need and at the same time contribute to a better understanding among people which is essential to the maintenance of peace."

"In pursuing this basic objective," Mr. O'Connor added, "the Red Cross welcomes the collaboration of all peoples and all agencies, national and international, genuinely concerned with the preservation of peace."

Reporting that Russia and certain other nations had unfortunately remained away from the International Red Cross Conference, Mr. O'Connor said that it was to be hoped that they would attend the diplomatic conference and adhere to the provisions of the new documents.

"In my opinion," he said, "one of the indications of true greatness is the ability of people who have a genuine difference of opinion to sit down together and discuss those things about which they disagree. I am certain that unless all governments accept that point of view and come together for that purpose at the diplomatic conference humanity is lost."

"I am happy to report, also," Mr. O'Connor said, "that the International Red Cross conference took a definite stand on a blood program, urging all the societies to encourage such activity, and to establish such a program if one does not exist."

"That resolution was adopted after reports were heard from representatives of the American Red Cross and those of five other nations where a blood program is being successfully conducted." Mr. O'Connor pointed out that such a national blood program in any country had no relation whatsoever in the socialization of medicine and where such a blood program involved the giving of blood without charge it would not preclude

the denying of the charge of the doctor or the hospital for the administration of such blood.

The sessions of the conference were held in the Swedish Parliament building with the late Count Bernadotte, President of the Swedish Red Cross and UN mediator in Palestine presiding. Representatives of 51 Red Cross societies and 49 governments attended. The provisional government of Israel was represented by observers, Mr. O'Connor said, and during one of the sessions, a spokesman informed the Conference that the Red Shield of David which has been carrying on relief work in Israel will apply for membership in the Red Cross.

The next International Red Cross conference will be held in the United States in 1952, but Mr. O'Connor said the location has not been selected.

While in Stockholm he also presided over meetings of the Board of Governors of the League of Red Cross Societies.

ORGAN MEMORIALIZES ALABAMA PHYSICIAN

A Hammond organ, given the Camp Hill Methodist Church by his widow, was dedicated on August 29 in memory of Dr. Wiley D. Wood, for 32 years a family physician of Camp Hill and surrounding territory. Dr. Lyman Ward, founder and president emeritus of the Southern Institute at Camp Hill, read "The Eulogy of a Doctor," by Robert Louis Stevenson and followed with a brief address paying tribute not only to Dr. Wood but also to Mrs. Wood, who has devoted a lifetime to interpreting classical music to the community.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

D. G. Gill, M. D.
State Health Officer

PROTECTION AGAINST TRICHINOSIS

To many people in this part of the country cold weather means hog-killings. That thought does not bring the satisfaction it used to, before modern refrigeration and rapid transportation gave us fresh hog meat the year around. Nevertheless, there are numerous Alabamians and others who will tell you that there is no meat in the world quite as tasty as fresh pork and pork products straight from your own smoke house or that of a neighbor. This is especially true of those who have lived in the country.

But fresh hog meat also has its dangers. Eating it without taking the proper precautions may give one a serious and painful disease. It may even prove fatal. The form of illness I have in mind is trichinosis.

A revealing incident occurred some years ago in Potsdam, N. Y. The Men's League of the Potsdam Presbyterian Church gave a supper attended by some 125 of their friends and fellow-townsmen. After eating a well prepared meal, the hosts and their guests sat around and engaged in pleasant conversation and good fellowship. The scene was

similar to any one of many occasions that have occurred in many towns, cities and rural communities in all parts of the country. As the evening wore on, someone remarked that it was bedtime. So the pleasant gathering broke up. The participants bade each other good night and returned to their homes.

Soon afterward eleven of them became sick. They began suffering from extreme nausea. They started vomiting. They experienced diarrhea. They were seized with cramps. They began running abnormally high temperatures. They began suffering muscular pains that brought agony whenever they moved certain parts of their bodies. There were also pains in their shoulders. Their neck muscles became extremely sore. They lost all desire for, or interest in, food. A number suffered severe prostration. Other symptoms that caused great alarm included physical weakness, chills, fever and edema of the eyelids.

Fortunately, none of the victims died, as far as is known. But, as someone later said, "all had good reason to know that they had been sick." Only one of the eleven was able to keep on working.

An investigation was launched at once to determine the cause of this outbreak. It

revealed that all of those who had become sick, and also 67 others, had eaten pork sausage. (Sausage, pancakes and syrup had formed the main dish.) The investigators also learned that this sausage had been made from pork purchased from a local butcher. The butcher, in turn, had purchased it from a man who was not only a hog-raiser. He was also a garbage collector. As the investigation proceeded, it made another important discovery: The hog-raiser-garbage collector had been feeding garbage to his hogs.

Residents of other parts of the country have become trichinosis victims under somewhat similar conditions.

In Niagara Falls, for example, 20 people became sick in this way. Their illness too was traced to the eating of home-made pork sausage. A social organization composed of Italians and Italian-Americans held a picnic at Rochester, N. Y. Pork sausage was served, and most of the 200 in attendance ate some. Eighty-five of them became sick. It is hardly necessary to tell you that they were victims of trichinosis.

This form of illness is much more serious than most people realize. For one thing, it is surprisingly prevalent. For another, it is extremely difficult to diagnose. This is due mainly to the fact that its symptoms are not very conclusive. It is easy to regard them as symptoms of other diseases. It is almost certain, therefore, that only a comparatively small percentage of the cases actually existing are ever reported as such. So there is no way of saying how many Alabamians and Americans generally are working under this handicap. However, the United States Public Health Service estimated some years ago that "seventeen per cent of the people of the United States have or have had trichinosis." Alabama public health authorities are not disposed to question the validity of this estimate.

You should not lose your appetite for pork or pork sausage as a result of the several references to them in this paper. They are not the cause, or causes, of trichinosis. Properly safeguarded, they are entirely harmless, from this point of view. But they can become agencies by which you may contract the disease.

The danger lies in the presence in pork and pork products of a small parasitic worm about 1/25 of an inch long. It is taken into

the body when a person eats meats that contain it.

The parasitic worm, known to physicians as the *Trichinella spiralis*, remains for a long time in the muscular tissues of hogs. Then it is in the form of a larva. Whenever someone eats hog meat without taking proper precautions, the larvae, encased in transparent capsules, are swallowed with the meat. From the mouth they travel to the stomach. There the capsules dissolve, and the liberated larvae bore into the walls of the intestines. Then they develop into mature worms and begin reproducing. Each female worm of this kind is said to be capable of producing about 1,500 eggs. These, in turn, are hatched. The new larvae grow to maturity, lay eggs and form additional links in the rapidly lengthening chain of reproduction.

After spending some time in the lymph spaces of the intestinal walls, the larvae travel to the blood stream. Once inside it, they go to the heart. From the heart they go to many parts of the body, where they seek lodgment in the muscles. There they bore in between the muscle fibres, just as their ancestors did in the muscles of hogs. Also like those ancestors, they become covered with capsules.

Human trichinosis may be said to begin when the larvae establish themselves in the intestinal walls. At that stage the victim suffers stomach upsets. Muscular pains torment him. His muscles twitch. He has a feeling of great physical weakness. As the disease progresses, other symptoms usually appear. Breathing becomes difficult. He also experiences difficulty in swallowing, talking or chewing, depending upon which muscles are involved. In most cases there is headache. The patient feels chilly and ill. The eyes become puffy. The throat becomes sore. There is considerable fever.

The acute attack of trichinosis normally lasts about one or two weeks. While, fortunately, the disease has a very low death rate, recovery is usually slow. In either case, the victim is almost certain to have to endure a great deal of pain. In the relatively few cases that end fatally, death is usually due to injury done to the heart muscles by the parasites. (Remember, practically any muscles of the body may be attacked.)

That initial acute attack is soon followed by what is known as the second stage. This

is marked by an increase in the white cells of the blood and by high fever.

Then comes the third stage. In that stage, the victim suffers from anemia. In many cases he also has eruptions of the skin. He is unusually susceptible to pneumonia. His temperature rises and falls.

Unfortunately, there is little that medical science can do to speed recovery, once trichinosis has developed. About all the doctor can do is to make the victim as comfortable as possible while the disease runs its course. That, as already emphasized, is a slow process. When recovery comes, it is due to the parasites' becoming encysted. That is, capsules form around them. In that way, they are rendered harmless. Thus recovery from trichinosis is not very different from recovery from pulmonary tuberculosis. In that disease recovery comes when the tubercle bacilli are "bottled up" and thus kept impotent. In both diseases, the permanence of recovery depends upon the victim's success in keeping those troublemakers "bottled up."

Fortunately, trichinosis is easily prevented. That calls for just a reasonable amount of care and forethought. Preventive protection is the responsibility of two people: the farmer who grows hogs for sale as meat and yourself, the meat-eater.

You will recall my reference to the trichinosis outbreak traced to hog meat bought from a farmer who had fattened his hogs on garbage. Thousands of other farmers have done the same thing. And garbage may contain any number of things that will give hogs trichinosis. For example, dead rats, which many people get rid of by throwing into garbage pails, have been found to contain an unusually large number of these troublesome worms.

Feeding garbage to hogs involves a considerable financial saving to farmers. If they were obliged to fatten them on feeds that had to be bought, they probably would either have to raise the price of their hogs or operate at a loss. Fortunately, they do not have to face such a formidable choice. For they can continue to feed their hogs garbage, without endangering the health of those who eat their meat. This can be done by the simple process of cooking the garbage before doing so.

To provide an added measure of protection to the meat-consuming public, farmers should see that hog meat is stored at a temperature of five degrees above zero, Fahrenheit, for twenty days. This should kill any trichinosis parasites that may be present.

But the consumer cannot be certain these precautions have been taken. So he should do his part.

That consists of not eating hog meat which has not been thoroughly cooked. Packing plants that are federally inspected are required to heat such meat to 140 degrees, Fahrenheit. But not all hog meat eaten in this part of the country is handled by federally inspected plants. So some of Alabama's meat-eaters do not receive this protection. Therefore it is advisable for everyone to provide his own.

You cannot very well go into a restaurant kitchen to see that the pork chop you have just ordered is heated to 140 degrees. And many housewives and family cooks do not have the knowledge or equipment to determine the intensity of the heat to which their food is subjected in cooking. But, fortunately, that is not necessary. All you need to do is to be sure the hog meat that you eat has been heated enough to cause it to lose its pink color and turn grey. As this change of color does not occur until the temperature reaches 163 degrees, Fahrenheit, you have an extra margin of safety amounting to 23 degrees. You need not feel any embarrassment in asking the waiter in your favorite restaurant to see that your pork chop is well done. If you forget to do this, and he brings you one that looks pinkish, you likewise need not be embarrassed about asking him to take it back to the kitchen and have it cooked until it turns grey.

Reference was made earlier in this paper to the extreme difficulty of diagnosing trichinosis. A spokesman for the U. S. Public Health Service called attention to this a few years ago. He told about four cases in a single family. One was diagnosed as appendicitis. The other was called influenza. The third led the physician in charge to conclude it was poliomyelitis. The fourth was named choriomeningitis. The discovery that all four were actually cases of trichinosis came after one of the physicians largely disregarded the symptoms and made some tests.

All of us should take trichinosis more seriously than most of us do. We certainly should not develop a trichinosis-phobia. We should not allow our fear of it to spoil our enjoyment of pork and pork products. But this is a disease that can cause great pain. It can bring much anxiety to us and to our families and friends. It can result in prolonged and expensive invalidism. So let us not regard it too lightly. Let us exercise reasonable care to avoid getting it.

BUREAU OF LABORATORIES

H. P. Sawyer, M. D., Director

SPECIMENS EXAMINED

AUGUST 1948

Examinations for diphtheria bacilli and Vincent's	390
Agglutination tests (typhoid, Brill's and undulant fever)	1,566
Typhoid cultures (blood, feces and urine)	773
Examinations for malaria	1,048
Examinations for intestinal parasites	3,567
Serologic tests for syphilis (blood and spinal fluid)	31,718
Darkfield examinations	26
Examinations for gonococci	2,751
Examinations for tubercle bacilli	3,057
Examinations for meningococci	6
Examinations for Negri bodies (microscopic)	107
Water examinations	1,616
Milk and dairy products examinations	4,014
Miscellaneous	535
Total	51,174

BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

1948

	July	Aug.	E. E.* Aug.
Typhoid	9	8	18
Typhus	27	32	63
Malaria	45	21	467
Smallpox	0	0	0
Measles	42	19	37
Scarlet fever	31	21	50
Whooping cough	96	58	110
Diphtheria	16	38	47
Influenza	16	12	47
Mumps	81	27	24
Poliomyelitis	35	54	16
Encephalitis	2	0	1
Chickenpox	13	6	4
Tetanus	4	4	4
Tuberculosis	267	246	266
Pellagra	2	2	8
Meningitis	11	7	7
Pneumonia	101	53	129
Syphilis	609	2582	1464
Chancroid	14	41	13
Gonorrhea	613	616	653
Tularemia	0	2	1
Undulant fever	9	18	9
Amebic dysentery	3	3	1
Cancer	474	244	0
Rabies—Human cases	0	0	0
Positive animal heads	28	33	0

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director
PROVISIONAL BIRTH AND DEATH STATISTICS FOR JULY 1948, AND COMPARATIVE RATES

Live Births, Stillbirths, and Deaths by Cause	Number Registered During July 1948			Rate* (Annual Basis)		
	Total	White	Colored	1948	1947	1946
Total live births	6892	**	**	26.7	29.0	25.4
Total stillbirths	209	**	**	29.4	30.0	26.6
Deaths (stillbirths excluded)	2158	1264	894	8.4	7.5	7.5
Infant deaths:						
under one year	245	136	109	35.5	29.7	34.9
under one month	195	110	85	28.3	23.2	27.5
Cause of Death						
Typhoid and paratyphoid fever 1, 2	1	1	—	0.4	0.8	0.4
Cerebrospinal meningitis 6	1	—	1	0.4	1.2	—
Scarlet fever 8	—	—	—	—	0.4	—
Whooping cough 9	1	1	—	0.4	3.9	0.4
Diphtheria 10	1	—	1	0.4	—	0.8
Tuberculosis, all forms 13-22	93	37	56	36.1	28.7	32.9
Malaria 28	3	1	2	1.2	1.2	1.2
Syphilis 30	26	5	21	10.1	6.2	12.6
Influenza 33	9	5	4	3.5	2.3	1.6
Measles 35	1	1	—	0.4	—	1.2
Poliomyelitis 36	4	4	—	1.6	—	1.2
Encephalitis 37	1	1	—	0.4	0.4	0.4
Typhus fever 39	1	—	1	0.4	1.2	1.2
Cancer, all forms 45-55	219	161	58	85.0	74.1	71.0
Rheumatic fever 58	2	1	1	0.8	—	—
Diabetes mellitus 61	35	25	10	13.6	8.5	9.8
Pellagra 69	4	1	3	1.6	1.6	1.6
Alcoholism 77	5	3	2	1.9	0.8	1.6
Intracranial lesions 83	231	125	106	89.6	80.3	78.8
Other diseases of nervous system						
80-82, 84-89	26	20	6	10.1	—	—
Diseases of the heart						
90-95	531	333	198	206.1	167.3	165.1
Diseases of the arteries 96-99	24	16	8	9.3	9.3	11.0
Other diseases of the circulatory system						
100-103	7	2	5	2.7	—	—
Bronchitis 106	6	5	1	2.3	1.6	1.2
Pneumonia, all forms 107-109	61	39	22	23.7	21.3	22.7
Diarrhea and enteritis, under 2 years 119	13	7	6	5.0	3.9	5.5
Diarrhea and enteritis, 2 years and over 120	1	—	1	0.4	1.6	1.2
Appendicitis 121	9	5	4	3.5	3.9	4.7
Hernia and intestinal obstruction 122	24	15	9	9.3	4.3	7.1
Cirrhosis of the liver 124	11	6	5	4.3	4.7	2.4
Nephritis, all forms 130-132	146	83	63	56.7	55.1	48.2
Other diseases of the genito-urinary system 133-139	15	11	4	5.8	—	—
Diseases of pregnancy and childbirth 140-150	20	7	13	28.2	26.0	25.5
Puerperal septicemia 140, 142a, 147	3	2	1	4.2	2.6	12.0
Congenital malformations 157	21	13	8	3.0	—	—
Suicide 163, 164	17	16	1	6.6	5.8	4.7
Homicide 165-168	32	14	18	12.4	15.5	12.6
Accidental deaths 169-195	177	114	63	68.7	51.2	68.6
Motor vehicle accidents 170	52	37	15	20.2	19.8	27.4
All other defined causes	258	154	104	100.1	125.0	123.4
Ill-defined and unknown causes 199-200	121	32	89	47.0	56.7	47.1

*Birth and death rates per 1,000 population; stillbirths per 1,000 total births (stillbirths included); infant deaths per 1,000 live births; deaths from specific causes per 100,000 population; deaths from puerperal causes per 10,000 total births. All rates are based upon the July report of the years specified.

** Not available.

***Included with "All other defined causes" in 1946 and 1947

BUREAU OF SANITATION

Arthur N. Beck, M. S. in S. E., Director

A PROCEDURE FOR DISINFECTING SMALL
WATER SUPPLIES

Contributed by

C. W. White, M. S. in S. E.
Prin. San. and Pub. Health Eng.

All new private and semi-public water supplies, such as schools, as well as public supplies, should be disinfected before the water is used for drinking purposes. It is also advisable to disinfect the affected part or parts of the system when repairs are made or when extensions of the system are completed.

The methods of protecting water supplies are given in the bulletin "Domestic Water Supplies Other Than Public" prepared by the Bureau of Sanitation. After the source of the supply, the well, spring or cistern, is protected from surface contamination, it should be disinfected with at least 20 p. p. m. and preferably with 50 p.p.m. of chlorine.

In order to calculate the quantity of chlorine required, the strength of the chlorine in the compound used will have to be known. Usually the amount of available chlorine is given on the label. Chlorinated lime has approximately 24%; H. T. H.-15, 15%; H. T. H., 70%; Lobax, 50% and Perchloron, 70%. The p.p.m. (parts per million) means the pounds of the chemical to one million pounds of water treated. One hundred twenty thousand (120,000) gallons of water will weigh approximately one million pounds; 20 p. p. m. of chlorine means 20 pounds to 120,000 gallons of water or 1 pound to 6,000 gallons. If H. T. H.-15 is used this means 6.7 pounds to 6,000 gallons or approximately 1.1 pound to 1,000 gallons. The table gives the approximate amounts of each common chlorine compound that is needed to treat 1,000 gallons of water with 20 p.p.m. of chlorine. If 50 p.p.m. is desired the amounts should be multiplied by 2.5.

TABLE I

Approx. Ounces Re-
quired to Treat 1,000
Gallons with 20 P. P. M.
of Chlorine

Chlorine Compound	
H. T. H.-15 (15%)	17.8
Chlorinated lime (24%)	11.1
Lobax (50%)	5.3
H. T. H. (70%)	3.8
Perchloron (70%)	3.8

The compound should be mixed in a two gallon vessel of water in order to be assured that the chlorine is in a strong solution.

To disinfect a dug well the amount of water in the well can be calculated by the diameter and the water depth. In a drilled well the amount of the chlorine compound should be based on 1,000 gallons as the quantity is not likely to be in excess of this amount of water in the well. The strong chlorine solution should be poured from the vessel to the well water and mixed, if possible. The pump may be disinfected by pumping some of the water to the surface after mixing. Allow the solution to stand in the well for at least 12 hours. After standing the required time, pump the water to waste until the chlorine odor is expelled. The well should then be ready for use.

To disinfect a spring or cistern the strong chlorine solution should be used to wash the walls and top. The bottom of cisterns should also be washed with the solution.

The water main or pipe should be kept clean while it is stored and during laying. At the close of a day's work, or whenever the workmen are absent from the job, the end of the last laid section of pipe should be plugged or capped to prevent the entry of foreign material of any nature. Prior to chlorination the pipes should be flushed thoroughly with the water pressure and outlets available. The chlorine dose applied to the water entering the newly laid pipe should be 40 to 50 p.p.m. The following table gives the lineal feet of various sizes of pipe that will hold 100 gallons of water.

TABLE II

Lineal Feet for
Approx. 100 Gallons

Size of Pipe	
½ inch	9,500
¾ inch	4,300
1 inch	2,400
1 ¼ inch	1,600
1 ½ inch	1,100
2 inch	600

In the case where an elevated tank is on the system it is very simple to add the required amount of the chlorine compound to the tank to produce a chlorine dosage of 50 p.p.m. Allow it to stand in the tank for 12 hours then draw the solution into the pipe lines. The taps on the line should be opened until the chlorine odor is detected and then closed. After the solution has reached each tap, allow it to stand in the system for 12

hours. Flush the system until the chlorine odor is expelled. The system should then be free of contamination and ready for use.

Where pressure tanks are on the system, the chlorine compound will have to be fed to the pump suction at the rate to produce the desired strength in the system. The capacity of the pump will have to be known. A barrel should be filled with water and the calculated amount of chlorine compound added to the barrel to treat the water delivered over several hours. The strong chlorine solution is then run into the well or spring at the desired rate to empty the barrel over the period of time. As an example: The chlorine dose is to be 50 p.p.m.; the bar-

rel will hold 50 gallons and the pumping rate is 5 g.p.m. or 300 gallons per hour. Fill the barrel for a 6-hour run or to treat 1,800 gallons of water. From Table I, it is found that 5.3 ounces of Lobax is required to treat 1,000 gallons with 20 p.p.m. of chlorine. To get 50 p.p.m. multiply 5.3×2.5 which will give 13.2 ounces for 1,000 gallons or 13.2×1.8 equals 23.8 ounces to treat 1,800 gallons. Add the 23.8 ounces of Lobax to the water in the barrel, mix and time the drop in the barrel so that the solution will last 6 hours. It may be possible to allow the water to enter the pump suction at the desired rate by having a valve on the pipe from the barrel to the suction line.

BOOK ABSTRACTS AND REVIEWS

A-B-C's of Sulfonamide and Antibiotic Therapy. By Perrin H. Long, M. D., F. R. C. P., Professor of Preventive Medicine, Johns Hopkins University School of Medicine; Physician, The Johns Hopkins Hospital. Cloth. Price, \$3.50. Pp. 231. Philadelphia and London: W. B. Saunders Company, 1948.

This little book is offered by Dr. Long as a handy reference on the subject for the use of busy practitioners in their everyday work. He has presented his material in concise form while at the same time he has covered the subject adequately and rather completely. He has delineated the clinical pharmacology, the toxicity and the methods of administration of all these substances clearly and pointedly. It may be noted that very little attention is paid to the topical administration of these substances for the very good reason that Dr. Long's experience has taught him that such use is usually unnecessary and often harmful.

The material is presented in two main divisions. The first part of the book is devoted to a consideration of the various sulfonamides and antibiotics as entities. He further discusses the preparation and administration of each of these substances, the toxic manifestations which might be encountered and devotes some time and discussion to drug resistance which may be encountered. This section of the book closes with a section which contains many useful hints on the administration of sulfonamides and antibiotics.

The second section of the book is devoted to the Clinical Application of Sulfonamide and Antibiotic Therapy. In this section Dr. Long takes up individual diseases, which may be expected to be susceptible to this form of treatment, and discusses each disease briefly. He outlines the specific therapy indicated, points out the best mode of administration, and also discusses auxiliary therapy as indicated.

This book presents in an up to date form a

ready and handy reference in the field of sulfonamide and antibiotic therapy and should really prove a valuable help to any physician regardless of his particular field of interest.

J. M. Barnes, M. D.

Management in Obstetric Complications. American Practitioner Series. Edited by Clifford B. Lull, M. D., Clinical Professor of Obstetrics, Jefferson Medical College; Assistant Director, Philadelphia Lying-In Unit, Pennsylvania Hospital. Cloth. Price, \$4.00. Pp. 235, with 21 illustrations. Philadelphia: J. B. Lippincott Co., 1946.

This little book was published "to present to general practitioners authoritative discussions of the important complications most often encountered during pregnancy and labor." Included are sections on toxemias, ectopic pregnancy, abortion, complications of the third stage of labor, surgical complications of pregnancy, puerperal infection, management of some abnormal presentations, infections of the vagina, and placenta previa and abruptio placentae.

The section on toxemias of pregnancy includes a complete and detailed review of the recent literature on etiology and pathology. This is a good section but few authorities would agree with the authors in their choice of veratrum viride in eclampsia.

The section on ectopic pregnancy contains nothing new and nothing not found in the ordinary obstetrical textbooks. Removal of tubal pregnancies through the cul-de-sac is advocated.

The section on abortion is superficial. The other sections contain nothing new.

As a review of obstetrical complications for the general practitioner this book is inadequate. It is not recommended to any physician who has access to one of the standard textbooks on obstetrics.

J. W. Perry, M. D.

AMERICAN MEDICAL ASSOCIATION NEWS

ACCIDENTS RANK FIRST AS DESTROYER OF WORKING YEARS

A complete cure for heart diseases or cancer would have added fewer working years to the life expectancies of the American people in 1945 than would have been added by prevention of all fatal accidents, according to the Bureau of Medical Economic Research of the American Medical Association.

Writing in a recent issue of *The Journal of the American Medical Association*, Frank G. Dickinson, Ph. D., director of the bureau, and Everett L. Welker, Ph. D., associate in mathematics, say that fatal accidents now cut more years from the working lifetimes of the people of the United States than do deaths from any one natural cause.

The total numbers of deaths, which show heart diseases and cancer to be number one and number two "killers," are not alone an accurate measurement of the number of working years—those between the ages of 20 and 65—which are lost by death, they say, because mere numbers conceal wide differences in the average ages at death from different causes.

Neither can the loss to the productive and military strength of the nation from any one cause of death be accurately determined by this one measure in the present period of declining mortality, long life, and a rapidly aging population, they point out.

These conclusions are not based upon an alarming rise in the number of fatal accidents, but upon man's conquest of disease—medical progress against the "younger" and some of the "older" causes of death—the article emphasizes. The leading causes of death are divided into "younger" and "older" causes because the average age of persons who die from heart disease, cancer, intracranial lesions of vascular origin, and nephritis is 22 years more than that of persons who die from pneumonia and influenza, accidents, and tuberculosis, the article indicates.

Actually, the high death rate of persons 65 years of age and over from the "older" causes of death is an indication of the progress that has been made in extending the

lifetimes of many persons who formerly would have died in young or middle age from these diseases, the authors point out.

In the "younger" group of diseases, pneumonia fatalities have been sharply reduced by the "wonder" drugs, such as sulfanilamide, sulfadiazine, and penicillin.

Dr. Dickinson and Dr. Welker's classifications of the seven leading causes of death were taken from the *Manual of the International List of Causes of Death*, compiled by the United States National Office of Vital Statistics, Washington, and published in 1946. They were—diseases of the heart, including rheumatic heart disease, which is mostly a disease of children and young persons; cancer and other malignant tumors; intracranial lesions of vascular origin; nephritis; pneumonia and influenza; tuberculosis; and accidental deaths.

Using these classifications, Dr. Dickinson and Dr. Welker developed two new measures for ranking the causes of death. Both take into account the age as well as the number of persons dying from each cause.

One measure, working years lost, is based on the concept of a working lifetime as the period between the 20th and 65th birthdays. Everyone below age 65 has a certain number of "unrealized" working years ahead of him which are destroyed if he dies before the customary retirement age. When the unrealized working lifetimes of all persons dying from each of the causes are added together, the various causes can be compared in terms of the amounts of the nation's productive capacity which they destroy, the authors explain.

The other measure, life years lost, is the same as the first except that it considers the leisure as well as the working years destroyed by death and is based upon the average life expectancy of the American people at death rather than upon the arbitrary designation of the working years.

Applying these two new measures to the leading causes of death in 1930, 1935, 1940, and 1945, as listed by the National Office of Vital Statistics, Dr. Dickinson and Dr. Welker found that in 1945, a year of nationwide gasoline rationing, fatal accidents were

first in terms of working years lost, although heart disease killed over four times and cancer nearly twice as many persons. Accidents held this same rank in 1940, were second in 1935, and third in 1930. Accidental deaths accounted for 7 per cent of all deaths in each of the four years studied. Young white men are the chief victims of accidents, the article says.

In 1945 the number of working years lost from accidental deaths was 1,750,000, which may be compared to 1,680,000 from heart diseases, 1,110,000 from pneumonia, and 1,040,000 from cancer in the same year. Pneumonia deaths, which held first place in 1930 and 1935 as a cause of working years lost, dropped to third place, and tuberculosis, which held second place in 1930, dropped to fifth place.

The authors developed these two new measures to evaluate the loss to society resulting from the causes of death, and point out that neither is designed to gauge the importance of any one cause to the individual. As a whole, the study shows that the people of the nation are living longer and dying during old age when their working lifetimes are largely over. In 1945 no leading cause of death struck primarily at the young, mortality from diseases which kill before middle age had decreased rapidly, and the majority of heart and cancer deaths occurred after age 65.

The findings that fatal accidents are a greater menace to the nation's economy and security than is any one natural cause of death suggest that persons who plan health improvement programs would do well to place more emphasis on accident prevention.

The public must also, as patients, cooperate with physicians, and must continue to support medical research and education if the accelerated rate of medical progress is to be maintained, the article points out.

As a guide to the use of the two new measures, Dr. Dickinson and Dr. Welker say that "if the retired, leisure years are a major consideration, life years lost are recommended as the better of the two measures. If economic considerations are paramount, use of the second measure, working years lost, is advised."

The complete story of Dr. Dickinson and Dr. Welker's study may be found in their

recently published monograph, "What Is the Leading Cause of Death?"

The bureau plans to make a second study using similar criteria to measure the loss to society from disability resulting from sickness and injury, both fatal and non-fatal. The authors believe that the common cold will rank high among the leading causes of disability.

DR. FISHBEIN COMMENTS ON NATION'S HEALTH

The United States has more well qualified physicians in proportion to its population than any other country in the world, says Morris Fishbein, M. D., editor of *Hygeia*, the health magazine of the American Medical Association.

In an editorial which appears in the current (November) issue of *Hygeia*, Dr. Fishbein says in part:

"Hospitals are widespread throughout the nation. Almost 80 medical schools act as medical centers where professors who are leaders in their fields teach medical students what is newest and best and make their services available to the people of the communities.

"As a part of the social revolution that has been going on in much of the rest of the world, various nations have established systems of medical care in which government plays a predominant part. The government usually collects a compulsory tax from every worker in order to provide medical care, utilizing full time salaried doctors or members of the medical profession willing to cooperate in the government plan, or else the government bears all costs of medical education and controls the distribution of physicians.

"I have just returned from a visit to England, where the National Health Act became effective July 5, and also to France, Belgium, Holland, Denmark, Germany, Austria, and Switzerland. During the last week of that trip I attended the sessions of the World Medical Association, which included representatives of more than 30 of the national medical associations of the world. Everywhere physicians, statesmen, and the general public were concerned to some extent with the distribution and quality of medical care."

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OVARIAN TUMORS COMPLICATING PREGNANCY

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Pelvic tumors, as a complication of pregnancy, are relatively rare. Their presence taxes the judgment of the obstetrician because of their potential danger, which is enhanced by the pregnancy itself. This discussion will be limited to ovarian tumors encountered in pregnancy, the incidence of which is stated generally in the literature as from 1 in 600 to 1 in 2500.

In a series of 720 cases reported by McKerron in 1906, the maternal mortality was 21 per cent, while the fetal mortality was over 50 per cent.¹ It is assumed that expectant treatment was the policy at that time; whereas, the present day treatment tends toward more radical intervention, and the maternal mortality should be less than 2 per cent. Sepsis and undeveloped skill contributed greatly to the previously stated high maternal mortality.¹

Observations of the potential hazards of ovarian cysts complicating pregnancy have been made since antiquity. Before the days of modern surgery, the maternal and fetal mortality was appalling, and many cases terminated in a gruesome manner. The same dangers exist today, and the neglected case

is subject to the same outcome. However, with the development of the high standards of medical practice and studies, which have more or less unified methods of treatment, the morbidity and mortality rates have been greatly reduced. An irreducible minimum has not as yet been reached.

The potential dangers, which the presence of ovarian cysts causes, are: abortion, premature labor, torsion of the pedicle, suppuration, intracystic hemorrhage, dystocia, abnormal presentations, pressure on the ureter, possible adhesions, intestinal obstruction, and malignant changes.

This paper is based on a series of fifteen cases observed in the Department of Obstetrics and Gynecology, of the University of Louisville School of Medicine, between the years of 1937 through 1947. The incidence of ovarian tumors complicating pregnancy in this series was 1 in 1621 cases, or 0.061 per cent, as compared with an average reported general incidence of 1 in 1520 cases. Nucci gives an incidence of 1 in 1345 cases, or 0.074 per cent, in his series of 24 cases of ovarian cysts complicating pregnancy.² The extremes of 1 in 500 to 1 in 2500 have been reported. It is to be expected that, because of improved teaching and prenatal care, many cases are being found and reported that have caused little if any trouble in the management of the case; whereas, one would

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1. Wilson, K. M.: Ovarian and Parovarian Tumors, *Am. J. Obst. & Gynec.* 34: 977 (Dec.) 1937.

2. Nucci, R. C.: Ovarian Cysts, *Pennsylvania M. J.* 45: 1059 (June) 1942.

assume that formerly a higher percentage of cases came to the attention of the obstetrician only after harassing symptoms in the patient had occurred.

TYPES AND DISTRIBUTION

The high incidence of corpus luteum cysts early in pregnancy is due to the high level of gonadotrophin, which causes luteinization of the ovary. The high incidence of ovarian tumors occurring in the first pregnancy may be due merely to the fact that it is the first pelvic examination the patient has had.³ Up to 1943 there had been 4 cases of Brenner tumors in pregnancy reported. Rogers added one case. Andrews and others collected 43 cases of bilateral dermoids.⁴ Campbell stated that 10 per cent of all ovarian tumors were dermoids and were bilateral in 10 to 40 per cent. Five per cent of these tumors undergo malignant degeneration; therefore, in removing them, one should carefully inspect the other ovary.⁵

Frequently, the subject in whom they are found is of imperfect endocrine development, and therefore this group is in the low fertility class. Meyer found dysgerminomas in 27 hermaphrodites in a series of 40 cases of dysgerminoma.⁶

Wilson reported 7 cases of ovarian cysts, finding 2 dermoids, 2 simple, unilocular and 2 multilocular cysts, and 1 endometrial cyst with decidual reaction of the endometrium. Faulk and Bunkin report an incidence of 1 in 2500 cases, which is very low. They state that 95 per cent of all tumors five centimeters or less in diameter are functional, and of these only 6 per cent are malignant and usually found following the childbearing period. They further state that 25 to 30 per cent of ovarian cysts complicating pregnancy are dermoids, 85 per cent of which are found early in the childbearing period.

According to Bossert the incidence of neoplasms in pregnancy is given as 0.1 per cent, of which 5 to 7 per cent are malignant.

3. Adair, F. L., and Matts, R. N.: Hormonal Content of Ovarian Cysts, *Am. J. Obst. & Gynec.* 47: 593-607 (May) 1944.

4. Rogers, F. S.: Brenner Tumor of the Ovary, *Am. J. Obst. & Gynec.* 45: 896 (May) 1948.

5. Campbell, J. V.: Bilateral Dermoid Cysts, *West J. Surg.* 46: 186 (April) 1938.

6. Stabler, F., and Thompson, J. G.: Dysgerminoma Removed During Pregnancy, *J. Obst. & Gynec., Br. Emp.* 44: 705 (Aug.) 1937.

In our series, the distribution was: 5 dermoid cysts, 6 unilocular serous cystadenomas, 2 pseudomucinous cystadenomas, and 1 corpus luteum cyst. One cyst was unclassified as to type because of the necrosis and hemorrhage present resulting from torsion.

AGE AND GRAVIDITY

This series is quite small to draw any conclusions as to the general incidence of age and gravidity, but for the sake of the record it is recorded. The incidence of ovarian cysts in all women excluding luteinizing and solid tumors was found, by Spencer and Caverly, to occur at the average ages of 30 and 28 years respectively.⁷ They likewise found the incidence of parity to be 3 and 2.2 babies respectively. In our series, there is an average age incidence of 24.5 years, and a parity incidence of 1.9 babies.

Simpson, according to Caverly, states that 1 in 10 married women is sterile, and 1 in 3½ married women with ovarian tumors is sterile. Dieulofe reported 42 cases of sterility in young women in whom unilateral cysts of the ovary were found and removed, and of whom 33 became pregnant within 3 years after operation.⁷ In the opinion of most authors, ovarian cysts contribute in some degree to sterility.

In one series of cases, an incidence of 51.7 per cent of ovarian tumors were situated in the true pelvis, and 48.3 per cent were lying above the pelvic brim, in the iliac fossa, or in the abdomen. Of the cysts lying in the pelvis, 60 per cent were dermoids, confirming the fact that the cyst most likely to remain in the pelvis and to obstruct labor, with definite complications if ruptured, is the dermoid. Of the cysts lying above the brim of the pelvis 23.7 per cent were dermoids.⁷ This almost equal distribution is at variance with the findings of McKerron, who, in 1290 cases, found only 32 per cent, or 25.3 per cent, of the tumors in the pelvis. In our series, 10 tumors, 66 per cent, were in the pelvis, 4 or 40 per cent of which were dermoids. Of the tumors lying above the brim of the pelvis, 1 or 20 per cent was a dermoid.

Nucci reported in his series 5 dermoids, 12 cystadenomas, 4 corpus luteum cysts, 1 simple cyst, 1 chocolate cyst, and 1 cyst unclassified. In his series, 16 of the tumors

7. Caverly, C. E.: Ovarian Cysts in Pregnancy, *Am. J. Obst. & Gynec.* 21: 566, 1931.

were intrapelvic and 8 were above the brim of the pelvis.

DIAGNOSIS

The diagnosis of ovarian cysts may be simple on routine examination alone. On the other hand it may be obscured, depending on the size, location, duration of pregnancy, and other pelvic and abdominal pathology. The tumor may lie posteriorly and be obscured by the pregnant uterus, as was noted by Litzenberg.

Differential diagnoses are to be made from pedunculated fibroids simulating dermoids, which may usually be differentiated by use of x-ray. In small tense cysts, the diagnosis is difficult indeed. Larger flaccid tumors are to be differentiated from twins, hydramnios, hydatidiform mole, ascites, and par-ovarian tumors.

SYMPTOMS

Symptoms are absent in over 25 per cent of cases,⁸ and they appear postpartum in less than 7 per cent of reported series.⁷ Signs and symptoms of ovarian cysts in the non-pregnant cases are found in the pregnant individual, but usually, at one or more stages, they are accentuated. As stated by Williams, "the line of demarcation between health and disease in pregnancy is very sharp." In pregnancy, complicated by an ovarian tumor, this has added significance. Whether there is a growth influence on ovarian tumors as a result of the pregnancy is a disputed question. The belief that there is none, except in cases of torsion, is expressed by good authority.⁷ Many of the symptoms occurring are not peculiar to an ovarian cyst, as they may occur in fibroids or other moveable masses; for example, malignant masses, omental cysts, hydrosalpinx, pyosalpinx, and abdominal pregnancies.

Somewhat in the order of frequency of symptoms occurring are: none whatsoever; occasional symptoms of pressure and bearing down; the urge to defecate, if the tumor mass is on the left side and the rectum is full; mild to moderate discomfort, which may occur only when the patient is fatigued after standing for long periods. Frequency of urination, which existed prior to conception, is often so insidious that it may be considered inconsequential and may not be

reported by the patient unless she is questioned specifically about it. Slight, moderate, or sharp, severe pain may be present in varying degrees of torsion or shifting of the tumor to a new location by the enlarging uterus. Constipation is such a common complaint in the female that it is hard to evaluate; however, a history of increased constipation may be significant in the presence of pelvic pathology. Soreness, dull pains and aching in the lower abdomen, especially on the affected side, are usual complaints. These may have existed prior to conception and are accentuated following its advent. The tension on the infundibulo-pelvic ligament, when the enlarging uterus pushes the tumor upward, causes a pain that is indistinguishable from that caused by stretching the round ligaments by a rapidly enlarging uterus, as in twins, hydramnios, and hydatidiform mole.

Dyspnea and ascites in the larger tumors occur, and the latter more frequently after repeated torsion. A chain of symptoms not unlike ectopic gestation may occur; that is, an absence of menses followed by soreness throughout the lower abdomen, accentuated on the affected side. The usual presumptive signs and symptoms of pregnancy are present.

The usual bloating, irritability, and a consciousness of the pregnancy may cause vague symptoms of rectal pain. Pelvic congestion, including hemorrhoidal congestion, may simulate peritoneal irritation in the cul-de-sac, and produce symptoms of leakage of blood from a partially ruptured ectopic; that is, the urge to defecate—"bathroom sign."

Incarcerated tumors encroaching upon the surrounding organs, accentuated by the enlarging uterus, frequently make a differential diagnosis of urinary tract pathology difficult. One of our dermoid cases, number 7, simulated a bladder wall tumor. This patient was studied by the urological service where cystograms showed an indentation of the superior bladder wall. An extraperitoneal approach to the bladder was made, and when no tumor was found in this location, the peritoneal cavity was opened and a dermoid tumor of the ovary was encountered and removed.

Symptoms and actual signs of threatened abortion do occur quite frequently. As in-

8. Litzenberg, J. C.: Ovarian Cysts in Pregnancy, *Am. J. Surg.* 3: 506, 1927.

licated previously, there is some degree of infertility associated with ovarian cysts. It has been shown that in this group of cases the incidence of abnormal embryos is higher.⁹ Assuming that this situation exists, together with the mechanical irritation of the uterus, one would expect that threatened abortion would be enhanced. Pressure atrophy of the corpus luteum on the same side as the tumor would predispose to decreased corpus luteum function.

Tumors above the brim of the pelvis usually have a longer pedicle; therefore, torsion occurs in approximately one third of the cases.¹⁰ According to McKerron, it occurs in 8 per cent of cases in non-pregnant women, in 12 per cent of cases in pregnant women, and in 20 per cent of cases in the postpartum period.

Torsion occurred in 20 per cent of Wilson's cases, and was the most serious problem encountered. If torsion is frequent, the friction and the resulting pathological changes from impaired circulation enhance the formation of adhesions, which in themselves cause increased pain and possibly attachment to loops of the intestines, resulting in partial or complete obstruction with its severe complicating sequelae. Complete torsion with strangulation produces an acute ileus. Torsion and devitalization of the tissues predispose to intracystic hemorrhage. The lymphatic drainage to the devitalized tissues from the pelvis and the intestinal tract increases the incidence of suppuration and peritonitis.⁷

One or more of these complications occurred in 30.1 per cent of Caverly's series. Torsion occurred in 27.7 per cent. In 21.7 per cent of his cases, torsion occurred antepartum and postpartum in 6 per cent. Of the cases so affected, 21.7 per cent were pelvic in location and 18 per cent were abdominal. Thirty (30) per cent were dermoid in origin, and 70 per cent were of other types of tumors.

COMPLICATIONS OF RUPTURED CYSTS

In one series, intracystic hemorrhage occurred in 18.1 per cent of the cases—ante-

partum in 12 per cent, and postpartum in 6 per cent. Of this group, 20 per cent were pelvic tumors and 80 per cent were abdominal in location. There were 6.7 per cent dermoids, and 93.3 per cent of other types. Torsion, as a cause, occurred in a large majority, but trauma was occasionally an etiological factor. Suppuration was encountered in 1 per cent of the 46 cases collected. This low incidence, as compared with the earlier reports, is attributed to earlier diagnosis and surgical intervention.

Rupture was not seen in Caverly's series, but the general average is given as 2.3 per cent to 13.6 per cent. Postpartum rupture from trauma and pressure necrosis at delivery may occur occasionally. Torsion is frequent enough at any stage to justify removal of cysts at whatever stage they may be found. The possible complications outweigh the advantages to be gained from conservative management.

TREATMENT

Treatment is aimed at lowering morbidity and mortality, and salvaging babies. In the light of present day knowledge of surgery and endocrinology, and from studies of statistics, the trend toward so called radical intervention at the optimum time following the transition period, and on selected cases as based on pregnandiol determinations, seems not only justified but positively indicated. Ovariectomy should not be performed so close to term that the chances of the abdominal scar healing and withstanding the labor will be jeopardized. Precautions should be taken to insure that the patient does not go into labor prematurely. Assuming that one has carefully selected the case on the basis of pregnandiol determinations as one not likely to go into labor, should the patient be allowed to go to term and deliver, one runs into the possibility of severe complications—rupture of the cyst from pressure necrosis, torsion, and suppuration from the increased lymphatic drainage.

Expectant treatment is indicated when the size of the tumor is so small as to make a differential diagnosis between functional tumors and other types difficult; therefore, operation may be contraindicated. Bunkin states that 95 per cent of all tumors, 5 centimeters or less, are physiological. Solid tumors, should be removed, and, if malignant,

9. Rock, J., and Hertig, A. T.: The Human Conceptus During the First Two Weeks of Gestation, *Am. J. Obst. & Gynec.* 55: 6 (Jan.) 1948.

10. Bossert, L. J.: Bilateral Ovarian Carcinoma Associated with Intrauterine Pregnancy, *Am. J. Obst. & Gynec.* 44: 336 (Aug.) 1942.

the other ovary is also removed. All others that complicate pregnancy should be removed following the transition period as determined by the pregnandiol excretion.¹¹

Postoperative treatment should consist of ample opiates during the first 48 hours and liberal usage of progesterone therapy. Assuming that ovariectomy is to be performed on all tumors 8 centimeters or more in diameter, the procedure should be preceded with adequate doses of progestin a day or two preoperatively and continued postoperatively well past the hospital period. The dosage should be diminished gradually as determination of pregnandiol excretion may indicate. It is trite to mention that the operation should be performed with meticulous care, guarding specifically against manipulation of the uterus. If the cyst is large, the abdominal incision should be made accordingly. Aspiration of the cyst to enable one to remove it through a small incision is to be condemned. The danger of spillage into the abdominal cavity is great no matter what measures are taken to prevent it. The determination of whether the cyst is malignant or not sometimes taxes the pathologist in making his diagnosis in the laboratory; so one, in the haste of the operation, cannot say that there are no malignant cells spilling into the abdominal cavity.

If the cyst is obstructing the birth canal, aspiration through the cul-de-sac should not be done for reasons stated above. Reposition may be accomplished in the Trendelenberg position theoretically, but this is a difficult procedure, and one runs the risk of rupturing the cyst. Should it be a dermoid or a malignancy, the results are obvious. Incision and drainage should be condemned. The state of the tissues, edema, and increased vascularity and lymphatic drainage from the vagina all enhance the possibility of infection.

Premature induction of labor several weeks before term has the added danger of that procedure coupled with premature babies and added trauma to them.

Combined cesarean section and ovariectomy as an elective operation is the method of choice in treatment of the case that has

been permitted to go to viability. Supportive treatment such as blood transfusions can be anticipated and administered. The added hazards of the procedure are not great and, following the removal of the baby and the suturing of the wound, the cyst is delivered through the abdominal wound, the attachments easily exposed, and it is removed. The danger of torsion postpartum, which is due chiefly to the elongated pedicle of the cyst, and the diminished size of the uterus, which previously helped to splint it, is eliminated. Therefore, the patient with an ovarian cyst, who is not sectioned, must be observed closely postpartum. Intervention should be instituted at the first signs of torsion or peritoneal irritations.

The differential diagnosis between the torsion of a cyst and other postpartum complications which may arise, for example, parametritis, endometritis and pyelitis, in which operative intervention is contraindicated, is sometimes difficult. Consequently, foresight in the removal of such pathology earlier is wise.

The removal of ovarian cysts as soon as discovered was recommended at the turn of the century. Norris and others in 1903 quoted Dsirnes' series of 135 operations with a mortality of 5.9 per cent. Pregnancy was interrupted by the operation in about 20 per cent of the cases. The same authors suggest the aspiration of an incarcerated cyst through the vaginal vault, if one could be sure that it is unilocular and not a dermoid; however, they continue to say that it is a matter for serious consideration as to whether cesarean section, followed by the removal of the tumor, is better.

The increasing volume of cases reported in the literature lends clinical evidence to the basic endocrine concepts regarding the treatment in the human female. The transition period, when the progesterone begins to be formed elsewhere, is from 70 to 90 days, and pregnandiol excretion gradually rises to 60 to 105 milligrams by term. It also disappears within 24 hours postpartum, which indicates that its source was the placenta.¹²

In one of Nucci's cases, he removed bilateral dermoid cysts including the corpus luteum. Pregnandiol excretion was 10 and 17 milligrams for 24 hours on the thirteenth

11. Falk, H. C. and Bunkin, I.: The Management of Ovarian Tumors Complicating Pregnancy, *Am. J. Obst. & Gynec.* 44: 336 (Aug.) 1942.

12. Brown, J. S.: *Am. J. Obst. & Gynec.* 38: 927, 1939.

and forty-eighth days respectively. The patient was delivered at term. In another case by the same author the corpus luteum was left in the remaining ovary and, despite the administration of 20 milligrams progesterone daily, there was no excretion of pregnandiol on the tenth day postoperatively or seventy-five days of gestation, and the patient aborted 24 hours postoperatively.⁹ Therefore, the crucial period of transition as determined by endocrine assays is helpful in the studies of habitual aborters.

The relationship of the corpus luteum and its hormone progesterone was first demonstrated in experimental animals by Frankl and later by Corner and Allen, who were able to carry pregnancy to term by use of progesterone in rabbits castrated soon after conception.¹³

Wilson has observed at term and early in pregnancy varying degrees of degeneration of the corpus luteum, and feels that the habitual aborter presumably aborts on account of premature degeneration of the corpus luteum, and administration of the hormone would carry the pregnancy successfully to term. All five of his cases with the corpus luteum removed aborted.¹³ Pregnandiol determinations were not done on this series of cases.

Ask-Upmark,¹⁴ Pratt,¹⁵ and many others have reported instances where patients were carried to term after removal of the corpus luteum early in pregnancy without any hormonal therapy. Pratt reported a case in which he removed the corpus luteum on the twenty-first day of the menstrual cycle, and the patient went to term. The necessity for supportive progestin varies in different individuals and perhaps in the same individual in different pregnancies. How production of progestin may fluctuate with changing states of health is obvious.

McGinty and others, in 1936, found that the human organism contains significant amounts of progestational hormone during pregnancy, but that relatively little is present in the normal ovarian cycle. They conclude that while the corpus luteum may not be essential for the continuation of the human pregnancy, one cannot conclude that the luteal hormone is dispensable from that

observation alone since the placenta may produce its own progestin.¹⁶

According to Frankl, the corpus luteum of pregnancy is essential to the life of the pregnancy at most only in the first six weeks. The placenta, that is, the previous fetal trophoblast, presumably elaborates the identical or similar hormone, which suffices then for the continued existence of the pregnancy.¹⁷

In our series, the following case histories are noted.

REPORT OF CASES

Case No. 1, No. 91387—Mrs. J. C., age 19, para 0, gravida 1, colored female was seen in the gynecology outpatient department for the first time in 1941, at which time an 8 centimeter cystic, left adnexal mass was found on pelvic examination. History at this time was essentially negative except for gonorrhea in 1941.

In 1947, during routine prenatal examination, a ten centimeter cystic mass, adherent in the cul-de-sac, was found associated with a pregnancy of about four months. X-rays revealed a soft tissue mass in the lumbosacral region. A frog test at this time was positive. During the four months of gestation there had been no symptoms or signs of a threatened abortion. At eighteen weeks the patient was given 10 milligrams progesterone prior to surgery, at which time a left salpingo-oophorectomy was performed, removing an eight centimeter cystic mass adherent in the cul-de-sac. No corpus luteum was seen at the time of surgery. Postoperatively the patient was given progesterone—10 milligrams daily for eight days—along with opiates.

Microscopic diagnosis: Fetal rest cyst of the ovary.

The remainder of the prenatal follow-up was essentially negative, and the patient delivered a viable child at term via outlet forceps.

Routine six-weeks check-up revealed normal involution and an asymptomatic mother.

Case 2, No. 161166—Mrs. B. T., 22 years old, para 0, gravida 1, colored female was seen for the first time in August 1947. On

13. Corner, G. W.: *Am. J. Physiol.* 86: 74, 1928.

14. Ask-Upmark, M. E.: *Acta obst. et gynec. Scandinav.* 5: 211, 1926.

15. Pratt, J. P.: *Endocrinology* 11: 195, 1927.

16. McGinty, D. A. and McCullough, W. J.: *Proc. Soc. Exper. Biol. Med.* 34: 176, 1936.

17. Douglas, M.: *Surg., Gynec. & Obst.* 52: 52-55, 1931.

routine obstetrical examination, an eight weeks gestation was found. Coincidentally, there was found a hard, irregular, five centimeter mass in the right adnexal region, which displaced the eight weeks gravid uterus to the left. A Friedman test was positive. X-ray findings revealed a thin rim of calcium over the second and third sacral segments, which, on lateral view of the pelvis, was located deep in the pelvic cavity. The opinion was that of an eight centimeter mass, which may represent a fetal skull; however, no other fetal parts were demonstrated. In the absence of other fetal parts, the possibility of a calcified tumor in this area was suggested.



Fig. 1, Case 2—X-ray showing a thin rim of calcium over the 2nd & 3rd sacral vertebrae. In view of absence of fetal parts, this was interpreted as a dermoid cyst.

After presentation and discussion of the case, it was decided that a pelvic laparotomy should be done after the patient was past her sixteenth week of gestation.

At nine weeks gestation, vaginal bleeding with cramping began. The patient was admitted to the ward and was placed on ephynal acetate, 50 milligrams daily, cyclogestrin, 1 cubic centimeter daily, and adequate sedation. Despite adequate therapy, the patient aborted spontaneously at ten weeks. Because of persistent vaginal bleeding, a therapeutic curettage was done one week later. Pathology revealed necrotic secundines.

Three weeks following abortion, a right oophorectomy was done, removing an eight centimeter semi-solid calcified mass, which was adherent in the cul-de-sac.

Microscopic diagnosis: Dermoid cyst of the ovary.

The postoperative course was uneventful, and subsequent check-ups have been essentially normal. No subsequent pregnancies have been reported to date.

Case 3, No. 14578—Mrs. V. C., age 22, para 0, gravida 1, colored female was seen for the first time in November 1947, at which time an eight to ten centimeter cystic and freely moveable mass, anterior to the uterus, was found in association with an eight weeks gestation. Friedman and frog pregnancy tests were positive; pregnandiol determinations were negative.

Three weeks prior to her first prenatal visit, this patient began experiencing sharp, non-radiating, intermittent, left lower quadrant pain. There was no evidence of vaginal bleeding.

Surgery was contemplated when the patient was approximately twelve weeks pregnant. Twelve hours prior to intervention, progesterone, twenty milligrams intramuscularly, was given. A left oophorectomy was done, removing a cystic mass measuring 5.5/6/1.5 centimeters. No evidence of a corpus luteum was seen in the opposite ovary.

Microscopic diagnosis: Retention cyst of the ovary, degenerating corpus luteum, and a corpus luteum of pregnancy.

Postoperatively the patient received ten milligrams of progesterone daily, fifty milligrams ephynal acetate daily for five days plus postoperative opiates for three days.

Two weeks postoperatively, at approximately fourteen weeks gestation, this patient aborted, spontaneously, completely.

The postpartum follow-up was essentially negative, and no subsequent pregnancies have been reported.

Case 4, No. 135004—Mrs. R. B., age 37, para 5, gravida 6, white female was referred to the Louisville General Hospital as a possible ruptured ectopic pregnancy. Her past history revealed two years of irregular menses, and her admission history revealed a period of three months amenorrhea prior to admission.

Twelve hours prior to admission, this patient experienced sudden severe, left lower quadrant pain associated with weakness, nausea, vomiting. Physical examination re-

vealed a uterus of approximately three months gestation with an associated large, ten centimeter, cystic mass, very tender, adjacent to and separate from the uterus.

Clinical diagnosis: Pregnancy, intrauterine, three months, and ovarian cyst, left, with torsion of the pedicle.

The patient was taken to surgery, and a ten centimeter, cystic mass, which had ruptured, and which contained many old blood clots, was removed. There were numerous old blood clots in the peritoneal cavity. Torsion of the pedicle was very definite.

Microscopic diagnosis: Serous cystadenoma of the ovary with necrosis and hemorrhage due to torsion. The cyst measured 10/9/3 centimeters.

The postoperative course was uneventful, and on discharge she returned to her private physician.

Case 5, No. 160436—Mrs. H. N., 17 year old, para 0, gravida 1, colored female was admitted in 1947 with a history of hematuria, backache and amenorrhea for seven months. Examination at this time revealed a uterus

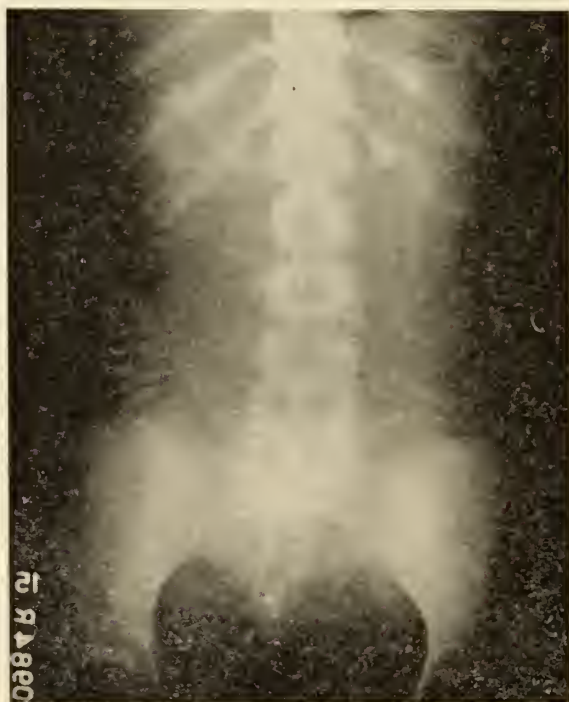


Fig. 2, Case 5—X-ray showing a calcified tumor in the region of the last sacral vertebrae containing unerupted teeth, and preventing the vertex from dipping into the pelvis. I. V. pyelogram revealing hydronephrosis of the right kidney and displacement of the ureters in the region of L4 & L5 due to this tumor probably.

enlarged to the size of a seven months gestation. During pelvic examination, a six centimeter, semicystic-solid mass was palpated in the cul-de-sac, which could not be displaced.

X-ray examination, including complete genito-urinary studies, revealed a calcified tumor in the region of the last sacral vertebrae containing unerupted teeth. Pyelograms revealed displacement of the ureters in the region of the fourth and fifth lumbar vertebrae due to the presence of this tumor, and hydronephrosis on the right.

Clinical diagnosis was that of a dermoid cyst complicating a pregnancy of seven months. The treatment decided upon was cesarean section at term, with removal of the dermoid cyst.

The patient was admitted at term, and a low cervical cesarean section was done, delivering a viable child. Subsequently, a left oophorectomy was performed removing an 8.5 centimeter mass located in the cul-de-sac.

Microscopic diagnosis: Dermoid cyst of the ovary.

This patient's postoperative course was normal, and routine six weeks check-up revealed normal involution.

Case 6, No. 91875—Mrs. H. W., age 24, para 4, gravida 4, white female was admitted to the Louisville General Hospital in December 1947.

This case represents the postpartum complications encountered with a serous cystadenoma of the right ovary not hindering labor, but rapidly increasing in size postpartum.

The patient was seen once in the prenatal clinic in August 1946, when she was approximately thirty-three weeks pregnant, and at which time her prenatal examination was essentially normal. On the fifth of October 1946, she delivered spontaneously a viable seven pound, eight ounce male child after a short six hour labor. Her postpartum course was uneventful except for excessive abdominal distention, which responded little to reduction efforts. The patient was discharged to the postpartum clinic to be seen in six weeks. At this time, she complained of increasing abdominal distention, and, on examination, a very large ovarian cystic mass was palpated abdominally.

After admission, pelvic laparotomy revealed a large, thin-walled cyst containing five quarts of greenish fluid attached by a

four inch pedicle to the base of the right broad ligament. A right oophorectomy was performed removing the cystic structure.

Microscopic diagnosis: Serous cystadenoma of the ovary.

The patient's postoperative course was uneventful, and interval checkups to six weeks postoperatively revealed a normal convalescence.

Case 7, No. 91946—Mrs. G. W., 17 year old, para 2, gravida 3, colored female was admitted in 1945 with a history of hematuria and frequency of two weeks duration.

Past obstetrical history revealed that in 1942, when she was pregnant for the first time, there was found a lemon-sized, moveable mass in the region of the umbilicus, and a gravid uterus of about eight months gestation. This mass was thought to be a pedunculated fibroid at that time. The pregnancy went to term normally, and the patient delivered a viable child via low forceps. In 1943, she again became pregnant but aborted spontaneously at three months gestation.

On the admission in 1945, she was not pregnant, and was admitted on the genito-urinary service. Air and radiopaque

cystograms revealed a calcified mass indenting the superior surface of the bladder, and the impression was a calcified tumor of the anterior bladder wall. She was operated upon by the genito-urinary department, and a six centimeter, calcified cyst of the left ovary was found adherent to the anterolateral surface of the uterus. A left oophorectomy was done.

Microscopic diagnosis: Dermoid cyst of the ovary.

The patient's postoperative course was uneventful, and subsequent visits to the outpatient department revealed normal progress. Patient again became pregnant in 1947, and went to term uneventfully, delivering a viable child spontaneously.

Case 8, No. 35393—Mrs. C. S., age 33, para 6, gravida 5, colored female had a normal term delivery in January 1939, and eleven months post delivery she was admitted to the Louisville General Hospital with a history of gradual abdominal enlargement of the previous three months. Her menstrual history was perfectly normal. Generalized abdominal cramping had been present for one week prior to admission. Physical examination at this time revealed a large, cystic mass, which was very tender and occupying the entire lower abdomen, extending up to one finger below the umbilicus.

Clinical impression: Cyst, ovarian, with torsion.

Surgery was immediately instituted and a large, bluish, thick-walled, twenty centimeter, ovarian cyst was found to arise from the left ovary. The pedicle was described as long and twisted 360 degrees. The cyst and pedicle were hemorrhagic in appearance. A left oophorectomy was performed.

Microscopic diagnosis: Ovarian cyst with hemorrhage from torsion, type undetermined.

This patient's postoperative course was uneventful. Patient did not return to the outpatient department for follow-up.

Case 9, No. 28530—Mrs. L. W., age 28, para 4, gravida 6, white female was admitted to the maternity ward in July 1939, at which time she was approximately eight months pregnant. Her history revealed cramping pains in the lower abdomen occurring at about fifteen minute intervals. Rectal examination then revealed the cervix markedly displaced anteriorly and upward behind



Fig. 3, Case 7—Radiopaque cystogram showing a calcified mass indenting the superior surface of the bladder.

the symphysis by a soft, boggy, orange-sized mass in the cul-de-sac. Sterile vaginal examination revealed the presence of this soft tumor in the cul-de-sac, which would be displaced. She became asymptomatic, and was discharged from the hospital to be followed in the prenatal clinic.

One week after discharge, she returned in active labor and delivered spontaneously a viable child. Her postpartum course was uneventful.

During her postpartum check-up, there was found a left ovarian cyst, lying in the cul-de-sac. Normal involution was present.

The patient was again seen in September 1940, in the prenatal clinic, at which time she was found to be approximately eight months pregnant. On examination she was found to have a large cyst in the cul-de-sac, tense to palpation, and displacing the cervix anteriorly and behind the symphysis pubis. She was admitted for sterile vaginal examination and evaluation, and the above findings were verified. She was discharged to be followed in the prenatal clinic.

At term, examination revealed a cephalic presenting fetus, the head was floating and was displaced into the right iliac fossa. Sterile vaginal examination at this time revealed a large pelvic tumor, which could not be displaced and was obstructing the birth canal. Elective cesarean section was decided upon, and was performed uneventfully with a subsequent left oophorectomy, removing an adherent cyst lying in the sacral concavity. The cyst was approximately 15/15/20 centimeters in size.

Microscopic diagnosis: Pseudomucinous cystadenoma of the ovary with hemorrhage into the cyst.

Postoperatively the patient progressed uneventfully.

Case 10, No. 28530—Mrs. E. M., age 26, para 2, gravida 3, white female was diagnosed in 1938, when she was approximately six and one-half months pregnant, as having an ovarian cyst. She was admitted at this time to the maternity ward and surgery performed. At operation a multilocular cyst, 30/20/20 centimeters, which extended over the superior surface of the pregnant uterus and up into the area of the left dome of the diaphragm, was removed after aspiration of one-half gallon of pseudomucinous-like fluid.

The patient received no special postoperative measures except the routine ones for abdominal laparotomies.

Microscopic diagnosis: Pseudomucinous cystadenoma of the ovary.

This patient's postoperative course was uneventful, and subsequently went to term and delivered a viable child spontaneously. The routine postpartum check-up revealed normal involution, and no evidence of recurrence was noted.

In 1945, this patient had an early spontaneous abortion, and at her last visit there was no evidence of pseudomucinous implants.

Case 11, No. 46492—Mrs. G. W., age 28, para 2, gravida 3, white female was first seen in the prenatal clinic at approximately six and one half months gestation. At this time her chief complaint was pain in the right lower quadrant. Physical examination revealed a gravid uterus the size of a seven months gestation, and a large fluctuant mass occupying the right half of the abdomen and displacing the uterus to the left. Her past history revealed subjective enlargement of her abdomen as early as one year prior to this pregnancy.

The patient was admitted to the maternity ward for study; however, after several hours on the ward, she signed out against the advice of the attending staff.

Readmission followed because of a retained placenta when she experienced a precipitate delivery of a viable child in her home at term. The placenta was removed manually, following which the uterus was one finger below the umbilicus and a demonstrable fluid wave was present in the abdomen. The diagnosis was cyst of the right ovary, type undetermined. The patient again refused treatment and left the hospital against advice.

Postpartum follow-up and subsequent visits to the outpatient clinics revealed two early, spontaneous, complete abortions four and five years later. The only other feature mentioned was the presence of fibroids.

Case 12, No. 2933—Mrs. D. M., age 33, para 2, gravida 3, white female was admitted to the Louisville General Hospital with a history of right lower quadrant pain for three weeks prior to admission. Physical examination revealed a three month's intrauterine

pregnancy with a lemon-sized, moveable, non-tender mass in the right iliac fossa.

Clinical impression: Pregnancy, intrauterine, approximately three months duration; ovarian cyst, right.

This patient was subjected to a pelvic laparotomy, and a right ovarian cyst 4/5/8 centimeters, attached by a long pedicle and gravitating into the upper abdomen, was removed. There was no special medication given to this patient pre- or postoperatively.

Microscopic diagnosis: Corpus luteum cyst of the ovary.

The postoperative course was uneventful.

The patient was again admitted in active labor, and experienced a normal labor and spontaneous delivery of a living child at term.

A subsequent postpartum examination was within normal limits, and this patient again became pregnant in 1942, and delivered normally.

Case 14, No. 576—Mrs. M. G., age 25, para 0, gravida 1, white female was seen for the first time on October 5, 1940. Physical examination at this time revealed a uterus enlarged to two times normal size and a cystic mass in the right posterior cul-de-sac approximately the size of an orange.

This patient had had no signs or symptoms of threatened abortion at any time.

A pelvic laparotomy was performed on October 16, 1940, at which time a right salpingo-oophorectomy and appendectomy were done.

Pathological diagnosis: Dermoid cyst of the ovary 11/10.5/6 centimeters. Appendicitis, chronic, with fecoliths.

Microscopic description: A number of blocks from the cyst wall show ovarian tissue in the wall, and the lining is made up of stratified squamous epithelium with a loose areolar tissue beneath it. Scattered giant cells can be seen in the wall. Hair follicles and sebaceous glands are present.

The patient received no special medication other than the routine care following a pelvic laparotomy.

At term, the patient was delivered of a viable male child via low forceps and a right medio-lateral episiotomy following a short six hour labor.

Postpartum examinations revealed normal involution, and subsequent pregnancy has occurred.

Case 15, No. 1943—Mrs. F. C., age 22, para 0, gravida 1, white female was seen for the first time in February 1948, at which time she gave a history of amenorrhea since December 31, 1947. Routine obstetrical examination revealed a uterus enlarged approximately one and one-half times, anterior, and a left ovarian cystic mass the size of a grapefruit posteriorly in the cul-de-sac. Patient had been progressing normally with no evidence of abortion having been present.

In March 4, 1948, a pelvic laparotomy was performed with a resultant left oophorectomy.

Pathological diagnosis: Dermoid cyst with associated corpus luteum of pregnancy.

Gross description: The cyst weighed 225 grams, and was 8½ centimeters in diameter. Present also was a large, brilliant orange corpus luteum.



Fig. 4, Case 15—Dermoid cyst weighing 225 grams and 8½ centimeters in diameter.

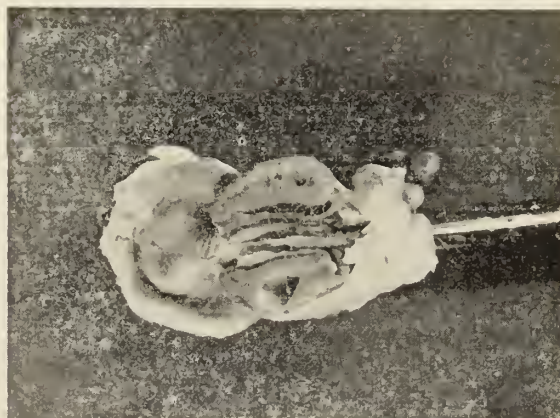


Fig. 5, Case 15—Corpus luteum of pregnancy included in a dermoid cyst removed at surgery.



Fig. 6, Case 15—Cartilaginous tissue present in a dermoid.



Fig. 7, Case 15—Active corpus luteum of pregnancy present in the removed dermoid cyst.

Microscopic findings: Squamous epithelium, salivary glands, sebaceous glands, brain tissue—consisting of glial stroma and intercellular material; hair follicles were present. There was also present a typical degenerating corpus luteum.

Postoperative care consisted of morphine sulphate, one sixth grain, three times a day

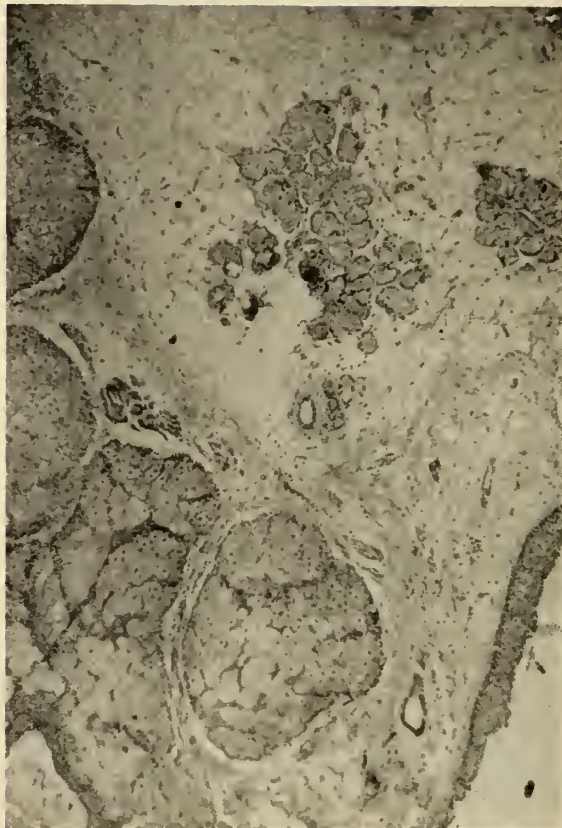


Fig. 8, Case 15—Microscopic section revealing ectodermal derivatives of a dermoid cyst.

for two days; progesterone, ten milligrams daily starting the fourth day postoperatively for ten days, and pranone, ten milligrams daily to date.

There have been no signs or symptoms of threatened abortion since surgery. The patient was ambulated on the eighth day postoperatively, and her convalescence has been uneventful. On March 17, 1947, pregnandiol determination was strongly positive.

DISCUSSION

In our series of cases, it can readily be seen that all factors involved in ovarian cysts complicating pregnancy have been encountered. (Charts I, II, III.)

During the ten-year period covered by our cases, the incidence of ovarian tumors complicating pregnancy was found to be 1 in 1621 cases, or 0.061 per cent. The distribution of the various types was: 5 dermoid cysts, 6 unilocular serous cystadenomas, 2 pseudomucinous cystadenomas, and 1 corpus luteum cyst. One cyst was unclassified as to type because of the necrosis and hemor-

rhage present resulting from torsion. The incidence of age and gravidity was found to be 24.5 years and 1.9 babies respectively.

CHART I

Case No.	Complications	Operated	Pathology	Results
1	None	18 weeks	8 centimeters fetal rest of the ovary	Term delivery
2	None	3 weeks post-abortion	Dermoid cyst of the ovary	Aborted preoperatively
3	R. L. Q. pain	12 weeks gestation	Retention cyst of the ovary	Aborted 2 weeks postoperatively
4	L. L. Q. pain Nausea Vomiting Weakness	12 weeks	Serous cystadenoma Necrosis Hemorrhage	?
5	None	Cesarean section at term	Dermoid cyst of the ovary	Uneventful

CHART II

Case No.	Complications	Operated	Pathology	Results
6	Abdominal distention following delivery	6 weeks postpartum	Serous cystadenoma of the ovary	Uneventful
7	Hematuria frequency postpartum	3 years postpartum	Dermoid cyst of the ovary	Subsequent pregnancy
8	Enlargement of abdomen 3 months, pain 1 week	11 months postpartum	Ovarian cyst with torsion and hemorrhage	Uneventful
9	Abdominal pain at 8 months	Cesarean section, cystectomy	Pseudomucinous cystadenoma of the ovary with hemorrhage	Term delivery uneventful
10	Mass in abdomen several years	22 weeks	Pseudomucinous cystadenoma of the ovary	Term delivery

CHART III

Case No.	Complications	Operated	Pathology	Results
11	R. L. Q. pain	Refused ante- and postpartum	?	Term delivery precipitate
12	R. L. Q. pain 3 weeks	12 weeks	Corpus luteum cyst of the ovary	Term delivery
13	Abdominal pain 10 weeks postpartum	10 weeks postpartum	Serous cystadenoma of the ovary	Uneventful
14	None	8 weeks gestation	Dermoid cyst of the ovary	Term delivery
15	None	8 weeks gestation	Dermoid cyst of the ovary Corpus luteum of pregnancy	Progress normal

As compared with other reported series, and with the advent of improved surgical technique, chemotherapy, and other antibiotics, the maternal morbidity and mortality

rates have been very markedly reduced as is shown in our series of cases in which the incidence was 0.00 per cent. In the light of present day knowledge of surgery and endocrinology, and from studies of statistics, the trend toward so called radical intervention at the optimum time following the transition period, and on selected cases as based on pregnandiol determinations, seems not only justified but positively indicated.

The transition period, when the progesterin begins to be formed elsewhere, is from 70 to 90 days, and pregnandiol excretion gradually rises to 60 to 105 milligrams by term. It also disappears within 24 hours postpartum, which indicates that its source was the placenta. Definite conclusions cannot be drawn from such a small series of cases in regard to the application of pregnandiol determinations; however, in Cases 3 and 15 (Chart IV) the individual variation factor

CHART IV

Case No.	Operated	Pregnandiol Determinations	Results
3	12 weeks gestation	Negative 14 days preoperative	Aborted 14 days postoperatively
15	Seven weeks gestation	Strongly positive 11 days postoperatively	Uncomplicated

is shown in regard to the transition period. Both cases being approximately 8 to 10 weeks gestation, negative pregnandiol determinations with positive Asheim and frog pregnancy tests were present in case 3 preoperatively, and despite hormonal therapy (adequate progesterone?) proceeded to abortion postoperatively. In contradistinction, Case 15 with positive pregnandiol determinations and hormonal therapy proceeded uneventfully postoperatively, and is now 6 months pregnant. In both cases the corpus luteum was removed at the time of surgery. Similarly, Nucci reported one case in which he removed bilateral dermoid cysts, including the corpus luteum. Pregnanndiol excretion was 10 and 17 milligrams for 24 hours on the thirteenth and forty-eighth days respectively. The patient was delivered at term. In another case, the corpus luteum was left in the remaining ovary, and despite the administration of 20 milligrams progesterone daily, there was no excretion of pregnandiol on the tenth day postoperatively or seventy-five days of gestation, and the patient aborted 24 hours postoperatively. Ask-

Upmark, Pratt and many others have reported instances where patients were carried to term after removal of the corpus luteum early in pregnancy without any hormonal therapy, and Pratt reported a case in which he removed the corpus luteum on the twenty-first day of the menstrual cycle, and the patient went to term. Thus it can be seen that the crucial period of transition has a variable factor in all pregnant women, and definitely the necessity for supportive progestin varies in different individuals and perhaps in the same individuals in different pregnancies.

Hain¹⁸ (1940), Hamblen, Cuyler and Baptist¹⁹ (1942), and Smith, Smith and Scheiber²⁰ (1941) have studied the course of pregnandiol excretion throughout pregnancy. Before an abortion or a threatened abortion, there is often a marked drop in the urinary pregnandiol figure, which, since it may precede the clinical signs by some days, may prove a useful warning to the obstetrician. Certainly in patients in whom some abnormality in the course of the pregnancy suggests the possibility of imminent abortion, the closest cooperation between the laboratory and the prenatal officer may provide an opportunity for successful prophylactic treatment. Guterman found it possible to predict accurately the outcome of a threatened abortion by means of pregnandiol determinations in 93 per cent of his cases. Barring mechanical factors, the continuing excretion of pregnandiol indicates that the particular pregnancy will be retained. Thus, applying pregnandiol determinations to cases of early pregnancy complicated by ovarian cysts, the time for intervention can be determined quite adequately.

Radical intervention, ovariectomy, is indicated in every case of pregnancy complicated by ovarian cyst. It should not be done during the first 2 months of pregnancy because of the possibility of removing the corpus luteum. Diagnosing the cyst for the first time in the last month of pregnancy, one of two courses seems to be indicated. The most advisable course is to wait until term and then perform a cesarean section

and ovariectomy, rather than to subject the fresh cicatrix to the strain of labor, or subject the patient to the possible rupture of the cyst during labor with the resultant complications following rupture of dermoids, pseudomucinous cysts or malignant cysts. If labor and delivery promise to be uncomplicated, let them occur normally, and then do an ovariectomy early in the puerperium. Providing the diagnosis of ovarian cyst is first made in the puerperium, ovariectomy should be performed at that time without hesitation.

SUMMARY

Fifteen cases of ovarian tumors complicating pregnancy are reported.

Incidence, types, complications, diagnosis and treatment are discussed.

Particular attention is paid to the optimum time for surgical intervention as indicated by pregnandiol excretion.

Rheumatoid Arthritis—For all practical purposes, it is almost impossible to predict the course of any one patient with rheumatoid arthritis. However, it is not as hopeless as is generally thought by the average practitioner. About 10-25% of the cases of rheumatoid arthritis will have a progressive downhill course, in spite of all therapy or lack of therapy. With a small amount of optimism, it may be stated that 50% will show moderate to marked improvement, while 20-30% will show improvement with some kind of therapy. This gives an approximate total of 70-80% of cases which will show improvement. On the other hand, remissions can frequently be hastened by medical treatments.

The word "cure" should not be applied to rheumatoid arthritis, but rather the word "arrested" or the words a "remission has occurred." There may be permanent remissions or temporary remissions. Exacerbations or relapses are frequently high in number, or they may be of short or long duration, as well as few in number.

The most favorable outlook is found in those patients with an acute onset. The prognosis may be considered unfavorable when the onset is insidious and new joints are involved from time to time with the production of marked muscular atrophy and weight loss. In these cases, subcutaneous nodules are frequently present, and the sedimentation rate remains high, and the tachycardia persists.

It must be remembered that some patients with rheumatoid arthritis will be crippled and will be invalids with marked cachexia in spite of all known forms of therapy. Rheumatoid arthritis is not a fatal disease in itself; however, it is a debilitating disease. Most of the cases die from intercurrent infection due to a weakened system. —Conner, *Arizona Med.*, Nov. '48.

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CONGENITAL HEMOLYTIC ICTERUS

REPORT OF CASE

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True congenital hemolytic icterus is a condition of interest besides itself in that it is concerned with the origin and destiny of blood and bile. Clinically its interest and concern are manifold. The student of genetics is offered a disease which is inherited as a true, dominant character in accordance with Mendelian laws. To the hematologist is presented a classical example of a true, hemolytic anemia. The internist will note that the polymorphism of the signs and symptoms of the condition differs in many instances so radically from the usual description as to tax and baffle his diagnostic ability. Splenectomy offers to the surgeon a method of treatment attended by a low operative hazard and results that are uniformly good.

The condition was first observed by Murchison in 1885 and definitely established as a clinical entity some thirteen years later. Around the 1900's its familial nature was reported by Minkowski. However, congenital icterus remains a pathological state which all too frequently goes unrecognized despite a train of clinical findings which should make diagnosis a relatively simple matter.

Haden's work showed the spherical microcyte to be the essential lesion and variation from normal. Because of the microspherulosis, Krumbhaar has suggested that it be called spherocytic jaundice. While the normal, average red blood cell swells and assumes a more globular form when placed in a solution of hypotonic saline, an already spherical cell, having an inherent decreased resistance and an increased fragility, will swell all the more easily when placed in a hypotonic saline. The cause of microspherulosis is not known and the spleen itself is not at fault because after splenectomy the fragility still remains high. It is most commonly believed to be an hereditary disorder in the formation of red cells in the bone marrow with the production of spherocytes. Dameshek advances the concept that it is not caused by some inherent and intrinsic

defect in the bone marrow itself but by the action of hemolysins of various types and in various "doses" on the mature red cell. Muelengracht believes the familial type to be inherited as a dominant factor, while Haden favors the hypothesis that in the familial type the microspherical cell of increased fragility is inherited and easily destroyed in the spleen, and that this accounts for the splenic hypertrophy. Of the two generally accepted types of the disease, the congenital and acquired, Dawson, Lee and Palmer believe they are one and the same, while Watson has determined the most significant factor in distinguishing the familial from the acquired type is the predominance of microcytes in the former and macrocytes in the latter. Usually the congenital form runs a quieter course and the patient is icteric rather than ill. The doctor is consulted about some quite different disease regarding the jaundice and, as Moynihan remarks, "with about as much interest as the color of his hair." The patient may be "affected rather than afflicted." The acquired form, although often quite chronic, is sometimes more eager in its course and starts as a definite attack of illness. More often than not the anemia is of a more severe character in the acquired form, and in this type autoagglutinins are found in the blood. Widal considers this to be sufficient evidence that the two types are definite and distinct.

Although evidences of the disease may be present at birth, as manifested by the case to be presented, they may not appear until a much later date, or the inherited characteristics may be carried and transmitted by an individual in whom clinical manifestations never develop.

The picture of congenital icterus, therefore, is bound up with blood cell destruction which makes it necessary to consider the role of the spleen in hematopoietic equilibrium. Normally under physiologic conditions there is maintained in health a balance between bone marrow hematopoiesis and

splenic function of cell storage and cell destruction. Considering then that one of the functions of the spleen is that of erythrocytic destruction, it is believed that only fragmented, dead or effete and senile red cells are disposed of in this way and the organ is not thought to attack healthy, circulating red cells. It is an organ of concentration along the line of the reticuloendothelial system. Assuming that the microspherulocyte is the basic lesion of congenital icterus, the spleen completes the rest of the picture during its phases of intense erythrolysis by enlarging in attempts to increase its phagocytic function in destroying the abnormal spherocyte.

This now brings us to a consideration of the clinical picture of the disease with its various signs and symptoms. With each hemoclastic crisis there is deepening jaundice, associated with an anemia, splenomegaly and reticulocytosis, the latter finding being due to an increase in bone marrow activity in an effort to compensate for a diminished number of circulating red cells. Subsequent to red cell breakdown, bilirubin is carried to the liver in greater quantities than can be excreted, hence the resultant jaundice. Hence also the frequent complication of gallstones which some authorities state occur in as high as 60-70% of cases. The jaundice, being acholuric, differs fundamentally from that caused by an obstructive mechanism. There is no bile in the urine, although it is present in abundant quantity in the blood stream. There is no pruritus and no bradycardia, and the stools are not clay colored. There is a positive indirect van den Bergh reaction which may become a positive direct one if there is associated disease of the bile ducts. The icterus index is greatly increased, along with the amount of urobilin in the stools. The latter is also found in both blood serum and in the urine. The blood Wassermann reaction may be positive.

X-rays of the chest often show an enlarged heart. Views of the long bones frequently show a delay in the formation of ossification centers. They may be widened and the cortex thinned out due to hypertrophy of marrow substance in an effort to keep up a maximum red cell production. It is to be noted that expansion of medullary tissue at the expense of cortical bone is an observed

characteristic of the congenital anemias of childhood.

Skeletal defects are sometimes found and these are illustrated by the so-called tower skull. Attention to this was first called and emphasized by Gansslen. He was also one of the first to call attention to chronic leg ulcers that are sometimes seen. Both German and Scandinavian workers have drawn particular attention to this finding and for the most part they have been present in young females. Usually the lesion is in the region of the medial malleolus and single. Trauma may or may not precede the appearance of an ulcer. A dusky blue area breaks down in its center and a shallow indolent erosion appears with a moderate amount of grey slough. The edges are slightly elevated and there is little undermining. A ring of bluish cyanosis or dark pigmentation circumscribes the lesion. No explanation has been satisfactorily found to explain the occurrence of these ulcers, but it is interesting to note the points of similarity between this and sickle cell anemia wherein three out of four patients have ulcers.

A word or two should be devoted to essential splenic pathology. The capsule is thin and strips easily from the organ. Upon section the surface is dark red and does not bulge beyond the cut edge of the capsule. The red cells are closely packed throughout the pulp and may be found infiltrating the Malpighian bodies. The venous sinuses are enlarged and lined by cuboidal cells. There is no increase in fibrous tissue and few hemosiderin phagocytes are to be found.

TREATMENT

There is no form of splenic enlargement which holds greater interest for the surgeon than that associated with congenital icterus. This is because nowhere in the entire field of surgical effort are the results of splenectomy more striking and dramatic. An individual who has been jaundiced since birth or for many years may acquire a normally colored white skin within twenty-four hours after operation.

According to Moynihan, the first splenectomy for congenital icterus was done by Sir Spencer Wells in 1887. It was reported by Lord Dawson of Penn that the patient was alive and well twenty-seven years later, but the red cells still showed increased fragility.

The surgical literature is filled with records of satisfactory clinical results following splenectomy for hemolytic icterus. In the past most surgeons have cried out against operative intervention during an acute hemoclastic crisis. However, work by Doan and others has further analyzed the underlying mechanism of the disease and has led to the definite conclusion that not only is splenectomy the therapy of choice as a prophylactic or curative measure in the chronic or subacute phases of the disease but in the acute crises it is mandatory.

Even though the total red count may be as low as 2 million per cu. mm. and the hemoglobin only 2 gm. per 100 cc., splenectomy should not be postponed with modern medical and surgical preoperative preparation. There may be marked improvement even while the patient is on the operating table. During the course of the operation the spleen is naturally massaged as it is mobilized, splenic contents are expressed and the blood count rises appreciably. Within a very short time there is marked improvement in hemoglobin concentration, and the icterus index falls markedly, as does the serum bilirubin and urobilin excretion. The reticulocytes rapidly return to normal.

Liver and iron therapy, either separately or in conjunction, are not indicated. Liver extract injections have been followed by still more marked hemolytic reactions and iron is too efficiently conserved and reutilized to be needed.

A word of warning should be issued regarding the preoperative use of blood transfusions. Even when the anemia is severe, transfusions should be given with extreme care, if at all. Fatal post-transfusion anuria has been reported due to kidney tubules being blocked by hematin crystals. However, as a life saving measure, small "pilot" transfusions, recommended by Dawson and others, may be given but with great care.

During the course of the operation it is to be remembered that multiple accessory masses of splenic tissue may be present. Neglect to remove these spleniculi will doom to failure an otherwise successful operation because relapses have been reported post splenectomy. Reexamination has revealed ectopic splenic tissue and recovery followed its removal. The microscopic picture is the same as that of the main organ. Search

should be made for gallstones, remembering their relatively high incidence of association with congenital icterus. Depending upon the general condition of the patient to be splenectomized, they should be removed, at the time or later. Splenectomy does not altar the basic lesion in these individuals. Operation deprives the defective red cells of their destroyer.

REPORT OF CASE

A 17 year old white female entered the hospital on January 9, 1947 with the chief complaint of yellow jaundice. It was noted at birth that both the skin and sclerae were deeply jaundiced and a dose of calomel was given on the second day of life. From time to time during the past the yellow discoloration faded but the skin always retained a muddy, dusky color without ever being entirely normal. Acute exacerbations of intense icterus have occurred at the ages of 3 and 15 years, and then the present. This episode followed what one physician diagnosed as influenza but no known precipitating factors are known for the others. Each attack lasted for about two weeks and was associated with malaise, weakness, lassitude, vague abdominal discomfort and mild distress in the lower chest. There has been no abdominal pain. The urine became very dark during each exacerbation of icterus but between attacks has remained normal in color. There has been no change in the color of the stools. A 10 pound weight loss occurred over a period of two weeks prior to admission to the hospital.

The past medical history is essentially non-contributory except that she has always been less vigorous than others of her age group and she would tire easily. No blood transfusions have been given and her treatment before admission has consisted of iron, liver and general supportive therapy. There has been no pruritus.

The paternal family history contributed nothing of importance to the general picture. Her mother has had bouts of chills and fever all of her life. Two maternal uncles have been jaundiced and the maternal grandmother is said to have had an enlarged spleen. There are eight brothers and sisters, all well. One brother died of heart disease at the age of three weeks.

Physical examination reveals a white female about 17 years old who appears to be

chronically ill. Her skin and sclerae are intensely jaundiced. A soft, blowing systolic murmur is present over each valvular area of the heart. There is a smooth, firm mass extending about 8 cm. downward from the left costal margin. No notch is palpable. There were no other findings of clinical interest. A flat plate of the abdomen revealed what was interpreted as an enlarged spleen. No gallstones were visible. Because of the jaundice a gallbladder study was not made, but was done at a later date and no stones were visualized.

Laboratory work: January 7, 1947—Two days prior to admission: Red cells 2.85 per cu. mm., with mild poikilocytosis; microcytic anemia, no nucleated reds, no macrocytes; hemoglobin 59%; white count 9,450—71% polys. and 26% lymphos; icterus index of 130; strongly positive direct van den Bergh reaction—not in keeping; reticulocyte count 40 to 50, platelets 270,000; spherocytes present but no count made of them; bleeding and coagulation times normal; sedimentation rate 53, hematocrit 26, color index 1.05, cholesterol 125, total protein 6.9, prothrombin time 94% of normal, Rh factor present, blood Kahn negative; fragility begins at .48, ends at .4; normal .42 to .36; no sickle cells seen. The urine was brick red in color and showed a 4 plus test for bile. On the 10th the urine was negative but for a brick red color. The stools gave a 4 plus test for bile and urobilinogen.

On the 16th of January splenectomy was done by one of us (RCD). Preoperatively the red count was 3.58 million, hemoglobin 65%. No blood transfusions were given preoperatively. During the operation the red count rose to 3.67 million, hemoglobin to 67%. The icterus index was still 130.

By the first postoperative day the icterus had fallen to 25, the red count had risen to 3.9 m., hemoglobin 78%. The platelets had increased to 428,470. The white cell count had not markedly changed.

Postoperatively she received two small transfusions of 250 cc. each.

She was discharged from the hospital on the 9th postoperative day. At that time the laboratory work had not markedly changed from that done on the 4th postoperative day, but her icterus index was only 12.

She has been seen at frequent intervals since then, the last time in early August 1948.

From time to time since discharge from the hospital she has complained of mild gastric upsets, but her general health has been good and she has gained 10 pounds in weight.

Aside from a high fragility, which is the same as before, the blood work is essentially normal. Reticulocytes have disappeared entirely from her blood.

A cholecystogram done in August 1947 showed no gallstones and a normally functioning gallbladder.

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Infertility in the Male—Experience has proved that the use of testosterone is contraindicated in cases of lowered fertility, because rather than increasing spermatogenesis it actually causes a definite depression, especially in larger doses.

There is an abundance of clinical reports indicating that thyroid deficiency may produce seminal inadequacy and that the administration of thyroid will quite often result in improved seminal fluid findings and impregnation. Even patients whose metabolic rates are within normal limits should be placed on thyroid therapy. Desiccated thyroid is considered the most useful single glandular preparation in the treatment of sterility, and it is believed that its action for the improvement of thyrogonadal relation appears to be enhanced by the simultaneous administration of vitamin B complex.—*Pelzman, M. Ann. District of Columbia, Nov. '48.*

PRESENT DAY STATUS OF THORACIC SURGERY

CHARLES J DONALD, Jr., M. D.

Birmingham, Alabama

It is now fifteen years since the first successful pneumonectomy was reported by E. A. Graham. Since that time tremendous advancement has been made in the field of thoracic surgery. A number of men are responsible for this. Among them are (1) Churchill and Overholt, for their work on segmental resections of the lung; (2) Robert Gross, who ligated the first successful patent ductus arteriosus in 1938; (3) Richard Sweet, for his pioneer work in surgery of the esophagus, and (4) Alfred Blalock, for his work in the relief of the tetralogy of Fallot. Of course, our knowledge of anesthesia and the physiology of cardio-respiratory function has also developed and improved greatly since 1932. Without good anesthesia it is impossible to do good thoracic surgery.

METHODS OF DIAGNOSIS

A good history and physical examination are of utmost importance in the diagnosis of intrathoracic pathology and should never be overlooked. The x-ray and fluoroscope continue to be our best means of diagnosing intrathoracic pathology. It is often necessary to take roentgenograms, with the patient rotated in several positions in order to visualize the pathology. With the patient in the lordotic position, lesions behind the clavicle may be much more easily visualized.

Bronchoscopic examination is of diagnostic aid in not over 50% of tumors of the lung. One must not be lured into a false sense of security by negative bronchoscopic examination where there is a definite history of pulmonary pathology or the presence of tumors in the roentgenograms. The bronchoscope is a straight instrument and cannot enter into the upper lobes or go out into the periphery of the lungs.

The examination of the sputum for the presence of tubercle bacilli, fungi, or tumor cells is important. Much work is now being done on various methods of diagnosing neoplasia of the lungs by bronchial aspiration and examination of the sputum. Reports

indicate that in laboratories that have specially trained technicians and pathologists the results range up to 90% of lung malignancies that can be diagnosed by this means.

Bronchograms are of value in the diagnosing of bronchiectasis, abscess, bronchial stenosis and an occasional case of tumor. It is usually easy to fill and visualize all lobes of the lungs by present day methods.

The present day concept of some of the most common pulmonary lesions will be given at this time.

PULMONARY TUBERCULOSIS

Pulmonary tuberculosis is treated by some type of collapse therapy in the majority of cases. This collapse therapy includes pneumothorax, intrapleural pneumonolysis, extrapleural pneumothorax and thorocoplasty. The resection of tuberculous lesions is also indicated in an increasing number of cases. This is best done under the protection of streptomycin. The resections are still not accepted by all men, but Overholt's work in this condition has been important and has emphasized the point that many tuberculous patients can be cured by resection. The generally accepted indication for resection is in patients who have open cavities after a thorocoplasty has been done. The other indications are bronchial stenosis with secondary bronchiectasis, solitary tuberculoma, and cavities next to the mediastinum that are not collapsible.

LUNG ABSCESS

We are getting away from drainage of lung abscess except under certain conditions. It is my belief that at least half of lung abscesses will be cured with judicious chemotherapy. Of the remaining half of these cases, the majority of them are best treated by resections. Drainage is indicated in the acute cases not responding to chemotherapy and in old poor-risk patients.

BRONCHIECTASIS

Unilateral bronchiectasis is curable by resection of the involved portion of the lung. Occasional bilateral cases are curable by bilateral lobectomies. The successful treat-

Read before the Southeastern Division of the Association, Enterprise, March 25, 1948.

From the Department of Thoracic Surgery, Medical College of Alabama.

ment of bilateral cases depends on the youth of the patient and limitation of the disease.

Resections for bronchiectasis are best done in patients 40 years of age and younger. Needless to say, the younger patients tolerate the resections the best. It is in bronchiectasis that bronchograms are of utmost value. The extent of the disease can be definitely outlined and by the segmental resections of the lobes only the diseased lung tissue is sacrificed.

TUMORS AND CYSTS

It is felt that all tumors and cysts of the mediastinum, lungs or pericardium should be removed, whether symptomatic or not. This statement is made with the understanding that the patient is a good surgical risk. It is quite true that these are very often picked up on tuberculosis surveys or on routine roentgenograms of the chest. Because of the tendency of these to (1) become infected, (2) enlarge and cause pressure symptoms, or (3) become malignant, it is felt that in all "good risk" patients an attempt should be made to remove them. Dermoids, teratomas, and neurofibromas are often silent for a long period of time before causing trouble. Certainly there is much less risk to removing these tumors than to keep them and run the possibility of some complication.

CHEST INJURIES

Much progress has been made in chest injuries in the recent war. These are the principal indications for an exploratory thoracotomy in chest injuries: (1) an open sucking wound, (2) hemorrhage that is uncontrollable, and (3) the presence of thoraco-abdominal injuries.

Stab and gunshot wounds of the chest that produce either pneumothorax or hemothorax or both, in which an exploration is not indicated, should have daily aspirations of the blood and air until the lung is reexpanded. A small percentage of these patients will develop massive clot formation (organized hemothorax) and infection. They should have thoracotomies 3 to 6 weeks after the original injury and a decortication of the lung, together with the removal of all clots and scar tissue. Formerly these patients were permanent "lung cripples." Now they can be restored to normal lives. If decortication is delayed for a longer period of time it will be more difficult to do. However, it

is possible to do it months and even years after being collapsed from scar tissue.

ESOPHAGUS

Dr. Richard Sweet has done some wonderful work in the development of esophageal surgery. Carcinomas and complete stricture of the thoracic esophagus may now be relieved by resections and mobilization of the stomach. The stomach is then brought up into the chest for an intrathoracic end-to-side esophago-gastrostomy. What was formerly a hopeless situation is now curable.

Certain cases of achalasia (cardiospasm) that do not respond to dilatation can also be cured by a plastic operation between the dilated esophagus and the stomach.

HEART AND BLOOD VESSELS

The most dramatic advancement in thoracic surgery has been in the treatment of congenital anomalies of the heart and blood vessels. In 1938 Dr. Robert Gross ligated the first patent ductus arteriosus. Since then it has been done many hundreds of times. The average length of life compatible with this condition was 35 years of age until the operation was devised. Now, after the patent ductus has been interrupted, these patients have a normal life expectancy.

The diagnosis of a patent ductus arteriosus is not difficult to make if one will keep it in mind. The presence of a loud continuous murmur and a systolic thrill over the second left interspace, together with a high pulse pressure, are the pathognomonic signs.

Characteristics of the tetralogy of Fallot are (1) enlarged right ventricle, (2) interventricular septal defect, (3) transposition of the aorta, and (4) pulmonary stenosis. Cyanosis, slight to very marked, is a predominating feature. The diagnosis is made by a high erythrocyte count and hematocrit reading, a boot-shaped heart, and no pulsation of the pulmonary vessels on fluoroscopic examination of the chest. Murmurs may or may not be present and are of little diagnostic importance. Dr. Alfred Blalock of Baltimore has devised an operation creating an artificial ductus arteriosus. His operation consists of anastomosing the subclavian artery to the pulmonary artery, and the blood is thereby oxygenated. This has given new hope to this previously hopeless condition. The optimum time for surgery is 4 to 10 years of age.

Coarctation of the aorta is another condition in which the life expectancy was hardly more than 30 years. It is characterized by a narrowing of the aorta just distal to the subclavian artery and the old ligamentum arteriosum; and there is a hypertension in the head and upper extremities and hypotension in the lower extremities. Death usually occurs from either congestive heart failure or the rupture of a cerebral vessel or of an aneurysm that is often associated with the coarctation. The condition may be cured by resection of the stricture, followed by reanastomosis of the aorta. The optimum age for surgery is 8 to 16 years. Patients older than this will have sclerosis of their vessels, making the procedure quite hazardous.

SUMMARY

Great progress has been made in the past 15 years in the field of thoracic surgery. With our present day technique and anesthesia there is no more risk in an exploratory thoracotomy than in an exploratory laparotomy. It is hoped that all physicians will become more "chest conscious" so that earlier diagnosis of pathologic conditions of the chest will be made and the proper treatment carried out.

Carcinoma of the Lung—In the early stages of carcinoma of the lung, physical signs are apt to be extremely minimal or actually absent. The physical signs will vary according to the position of the neoplasm and the involvement of bronchi. As the lesion enlarges in the region of a major bronchus, atelectasis will appear. The major finding in the early stage of the disease is usually the signs of an area of pneumonitis, or emphysema, and the signs are very apt to be localized to a particular segment or lobe. An audible wheeze may be heard if the bronchial obstruction is only partial. The most important factor, therefore, in consideration of physical findings in the patient with early carcinoma of the lung is that there are liable to be no abnormal physical findings present. In the later stages of the disease, one may find evidence of tenderness of the chest wall, obstruction to the superior or inferior vena cava with collateral venous circulation visible, palpable lymph nodes, and signs of pleural fluid. Also one may note evidence of weight loss and appearance of chronic illness. Clubbing of the fingers or pulmonary osteoarthropathy was present in 11 patients. Frequently this phenomenon may produce tenderness and pain, especially over the lower third of the tibia and fibula.—*Hopkins and Abbott, J. M. A. Georgia, Nov. '48.*

Diagnosis of Secondary Syphilis—The diagnosis of syphilis has presented many problems from the time it was first recognized by ancient physicians. Equally difficult with these problems

has been the proper nomenclature of the various stages or manifestations that the disease goes through from the time the infection is acquired until it is cured or becomes latent in the individual. In keeping with the various trends taking place in medicine, first there was a swing to nothing but physical findings and then, when Wassermann came out with complement fixation, there was a reversal to a serologic diagnosis of syphilis. This opinion has been foremost and has dominated the diagnostic field up to the present time. Wassermann's serologic reactions were substantiated and modified by many investigators. Kolmer developed a technic based upon Wassermann's fixation test. Shortly afterward Kahn devised a different serologic test based upon the agglutination factor. Both tests are accurate, sensitive and reliable, depending upon the skill of the serologist. At the onset of World War II and the increase of syphilis around camps and cantonments, the United States Public Health Service launched a comprehensive program not only to deal with the control of venereal disease, especially in the infectious stage, but also with proper, adequate medication for those persons requiring treatment.

With the advent of penicillin for the treatment of syphilis, it was recognized by such early investigators and eminent authorities as Evan Thomas that a new era in the treatment of syphilis was at hand and probably a new terminology and diagnostic procedure would have to be considered. Due to the changing influence penicillin has had on the cutaneous lesions and the serologic reactions, and the rapidity of the disappearance of clinical symptoms, with the masking effect of penicillin given for diseases other than syphilis, it is apparent that the clinician must rely more and more on a composite picture and the evaluation of the patient as a whole rather than one single factor.

The diagnosis of secondary syphilis is one of extreme importance to the community in that the individual requires early, adequate treatment to prevent spread, and, also, to the individual in that he or she receive proper care and treatment to prevent sequelae or complications that occur in three-fourths of untreated cases. We base our diagnosis on a number of factors that as a whole will or will not substantiate the diagnosis. First of all, we consider a history of extreme importance. This history must be all inclusive and especially concerning the sex behavior of the patient. This as a whole establishes a pattern of life, for we know the manner in which people live is of primary importance as to the diseases they acquire. Coupled with this information we know that approximately 55 per cent of the persons who have sexual contact with the victim of an infectious case of syphilis become infected. Also, if there is a history of recent administration of penicillin, it might so mask the clinical picture at the time that it appears the patient is not infected. Such a case should be followed preferably for nine months with a serologic test at monthly intervals, together with a complete clinical examination to observe the occurrence of infectious lesions.—*Barger, J. Florida M. A., Nov. '48.*

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ANTIHISTAMINIC DRUGS FOR RELIEF OF ITCHING

"Recently Feinberg summarized most of the work with Benadryl and Pyribenzamine in the United States. These drugs have now been widely used in many allergic and some nonallergic diseases. Very early during the clinical investigation of the so-called antihistaminic drugs, it was noted that they exert a significant effect not only on certain dermatologic lesions but also on the important subjective sensation of itching. It was obvious that if they exerted a definite antipruritic effect in a significant proportion of cases the antihistaminic drugs would be valuable adjuvants in the treatment of itching dermatoses . . .

"Since then we have had the opportunity to study the effects of antihistaminic agents in several hundred patients with various allergic and nonallergic pruritic dermatoses. For various reasons approximately 80 per cent of cases were treated with Pyribenzamine and approximately 20 per cent with Benadryl . . .

"A striking objective effect could be observed only in certain of the whealing lesions. This effect was of course most noticeable in urticaria, including urticarias due to physical agents (cold, light, stroking, etc.), but was also seen in the urticarial elements

of those dermatoses which present wheals in addition to other lesions (e.g., some cases of multiforme erythemas, dermatitis herpetiformis, acute eczematous contact-type dermatitis).

"No such direct effect of the antihistaminic agents was noted on any of the many other types of dermatologic lesions. However, while there was no visible direct effect of the antihistaminic drugs on nonurticarial skin lesions, the indirect effects were obviously achieved through a reduction of itching and the consequent reduction in scratching and other external traumatization . . .

"We observed a number of patients in whom Benadryl was effective against itching or urticarial lesions and Pyribenzamine was not effective, and conversely patients in whom Pyribenzamine was effective while Benadryl was ineffective. Thus, when one of these drugs has failed, it is always warranted to try the other. As a rule, it was not possible to compare the antipruritic efficacy of Benadryl and Pyribenzamine in the same patients and no definite statement as to their relative efficacy can be made. However, Pyribenzamine is usually our drug of choice because of the greater tendency of Benadryl to produce undesirable side effects, especially in its greater soporific action."

Thus do Baer, Sulzberger and Witten¹ begin their discussion of this subject. The authors tell us that 28 per cent of their patients experienced some side effects, sleepiness, nausea, excitement and headache being the untoward reactions most frequently encountered.

The New York observers also warn us that "in order to achieve maximum benefits with minimal side effects, the choice of drug and dosage scheduled must be adjusted to the individual case."

And, most properly, "it is urged that this new class of drugs be dispensed only on prescription, and that all patients be kept under medical observation during the period of administration."

ALABAMA INITIATES AMERICAN COLLEGE OF SURGEONS

Alabama initiates received into fellowship in the American College of Surgeons at the

1. Baer, Rudolf L.; Sulzberger, Marion B., and Witten, Victor H.: The Treatment of Itching Dermatoses with Antihistaminic Drugs. *Am. Pract.* 2: 237 (Dec.) 1947.

Convocation during the Clinical Congress in Los Angeles on October 22, 1948 were: A. Drew Ferguson, Shawmut; Euclid A. Isbell, Gadsden; Elias N. Kaiser, Montgomery; and Durward L. Lovell, David A. McCoy and Henry B. Morris, Birmingham.

ACADEMY OF GENERAL PRACTICE

Eighteen outstanding medical teachers have been selected by the Program Committee for the First Annual Scientific Assembly of the American Academy of General Practice to be held in Cincinnati, at the beautiful Netherlands Plaza Hotel next March 7, 8, and 9. The names of the essayists and their subjects will be announced later.

On September 15 the Executive Committee of the Board of Directors, composed of President Paul A. Davis, Akron, Dr. E. C. Texter, Detroit, and Dr. U. R. Bryner, Salt Lake City, met with the Program Committee and the members of all special committees concerned with preparations for the Assembly in Cincinnati to go over all preliminary details for the meeting. Doctors Davis and Texter are co-chairmen of the Program Committee. Other members are Dr. F. G. Benn, Minneapolis, Dr. R. C. McElvain, St. Louis, and Dr. J. P. Sanders, vice-president, of Shreveport, Louisiana.

All members of the Committee on Local Arrangements were present for the joint meeting of the committees. Dr. Joseph Lindner, Cincinnati, is chairman of the Committee on Local Arrangements. He has appointed Dr. Arthur N. Jay, Cincinnati, to be chairman of the Sub-committee on Registration.

Dr. E. Clarkson Long, Detroit, is chairman of the Committee on Technical Exhibits. Indications are that the leading pharmaceutical and equipment manufacturers of the country will be represented in the technical exhibit.

Mrs. Joseph Lindner, Cincinnati, has been made chairman of the Ladies Entertainment Committee. A separate registration desk and a hospitality desk will be maintained for the ladies and a series of pleasant social functions are being planned for them.

The Assembly will open at 9:00 a. m. on Monday, March 7, with an invocation and greetings from representatives of the mayor

of Cincinnati and the local medical society. The opening general session will be closed with the Presidential Address of Dr. Paul A. Davis. The first scientific paper will be presented at 9:30 a. m. in the spacious and comfortable Hall of Mirrors.

On Monday evening there will be a dinner for secretaries and presidents of constituent state chapters. The annual banquet for all members, their wives and friends, will be held on Tuesday evening. The meeting will close at noon on Wednesday, March 9.

The Congress of Delegates will meet at 10:00 a. m. on Sunday, March 6, preceding the Assembly and again, for its second session, on Tuesday afternoon.

Arrangements have been made to accommodate more than 2,000 members and their wives. Non-members of the Academy may attend the Assembly as guests on payment of a registration fee of \$5.00. Only Doctors of Medicine may register. There will be no registration fee for members. Banquet tickets will be sold at \$5.00 per plate.

A printed form for requesting hotel accommodations will be sent to all members later. Members wishing to make reservations now may do so by addressing the Chairman, Sub-committee on Hotels, American Academy of General Practice, Dixie Terminal Building, Cincinnati 2, Ohio.

THE CIBA AWARD

The Ciba award for meritorious work in endocrinology will again be offered in 1949. This Ciba award will be given in recognition of the accomplishment of an investigator, not over thirty-five years of age, in the field of clinical or preclinical endocrinology.

The Ciba award is for \$1,200.00. If within two years of the date of the award the recipient chooses to use it to aid in working in a laboratory other than the one in which he is normally located, the award will be increased to \$1,800.00.

The winner of the Ciba award for 1949 will be announced at the annual meeting of the Association for the Study of Internal Secretions. A special committee of five members of the Association chooses the recipient of this award subject to ratification by the Council of the Association. Each member of the Association has the privilege of making one nomination for the award.

In 1944 the Ciba award was given to Dr. E. B. Astwood; in 1945 to Dr. Jane Anne Russell; in 1946 to Dr. Martin N. Hoffman; in 1947 to Dr. Choh Hao Li, and in 1948 to Dr. Carl G. Heller.

GASTROENTEROLOGICAL ASSOCIATION AWARD

The National Gastroenterological Association again takes pleasure in announcing its annual cash prize award contest for 1949. One hundred dollars and a Certificate of Merit will be given for the best unpublished contribution on gastroenterology or allied subjects. Certificates will also be awarded those physicians whose contributions are deemed worthy.

Contestants residing in the United States must be members of the American Medical Association. Those residing in foreign countries must be members of a similar organization in their own country. The winning contribution will be selected by a board of impartial judges and the award is to be made at the Annual Convention Banquet of the National Gastroenterological Association in October of 1949.

Certificates awarded to other physicians will be mailed to them. The decision of the judges will be final. The Association reserves the exclusive right of publishing the winning contribution, and those receiving Certificates of Merit, in its official publication, *The Review of Gastroenterology*.

All entries for the 1949 prize should be limited to 5,000 words, be typewritten in English, prepared in manuscript form, submitted in five copies accompanied by an entry letter, and must be received not later than April 1, 1949. Entries should be addressed to the National Gastroenterological Association, 1819 Broadway, New York 23, N. Y.

SOUTHEASTERN ALLERGY ASSOCIATION

The fourth annual meeting of the Southeastern Allergy Association will be held at the Washington-Duke Hotel, Durham, N. C., on Saturday and Sunday, January 22 and 23, 1949.

Plans for the program are progressing nicely. Dr. George Rockwell, president of the American College of Allergists, and Dr. Walter Winkenwerder, president of the American Academy of Allergy, are to be the

guest speakers. There will be a panel on "Infectious Asthmas" headed by Dr. Oscar Swineford and a panel on "Food Allergies" headed by Dr. Hal Davison.

This year the program committee is asking for two volunteers to present papers at the afternoon session. These papers will have to be limited to 20 minutes, with 10 minute discussions. Anyone desirous of presenting a paper, please get in touch with the secretary at once.

Saturday noon there will be an informal luncheon for members. Saturday night there will be the regular banquet, to be held at the Washington-Duke Hotel. As usual, this will be the time for all the wives to renew their acquaintances, so be certain to bring your wife.

Make your hotel reservations directly with the hotel—and it is suggested that this be done early!

Medical Public Relations—The field of medical public relations is often misunderstood. It is not the fostering of propaganda in the usual sense of that word. Rather it is a function that evaluates public attitudes and influences policies which are of material interest to the public and the profession in order that we may earn public understanding and cooperation toward a common goal, an ideal in which every one has maximum health. At the present time, when legislation may be imminent which could have a profound and injurious influence on such a development, the importance of enlightening the public of the dangers of ill-advised action cannot be over emphasized.

Certain world wide trends toward what is commonly known as socialization will not be influenced by organized medicine, but medical economic trends in our own country are unquestionably a problem in which we have a major responsibility. At the moment, through the voluntary prepayment health movement, we can make our most important contribution, but, along with this development, definite attention must be paid to the distribution of doctors and the quality of medical service. With the proper development of such a program we may hope that federal legislation will be concerned chiefly with assisting medical scientific progress and providing medical facilities for the indigent.

Public relations experts have often said that the best public relations officer is the physician himself. What is meant by this statement is that the physician can be of momentous influence provided he is well informed and has a deep interest in these developments. In addition, however, there must be thinking and activity of Medicine as a group at national, state and county levels through medical societies. At the national and state levels we have every reason to feel that great progress is being made.—*Editorial, Connecticut M. J., Nov. '48.*

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

THE WOMAN'S AUXILIARY AND PUBLIC RELATIONS

W. A. Dozier, Jr.

The Woman's Auxiliary to the Medical Association of the State of Alabama and the respective Auxiliaries to the County Medical Societies feel that they have come of age. It is most fitting that this feeling should be growing within these groups. As one of the officers of the State Auxiliary said, "We feel that at long last we have a real and important reason for being. Our husbands need us, and we are ready to help."

Just why is the above mentioned feeling growing and why should such a statement as the one above be made? The doctors' wives have been alerted to the social situation facing the profession and have resolved to help their husbands in any way they can. These ladies have come to realize that they, as well as their husbands, are public relations in operation twenty-four hours a day. They realize the importance of good public relations and are resolved to direct their individual and collective actions toward better public relations in all quarters.

Following this line of thought, the Woman's Auxiliary to the American Medical Association has centered its whole program for the year around public relations. The state and county Auxiliaries are, in turn, following the same line of action. For public relations is a field that is free of unintelligible terms of a scientific or technical nature. It is a field in which your wives feel at home, for so much of their lives has been spent in meeting and dealing with people.

A doctor's life is built on service. Any medical public relations program must of necessity be built on the concept of service—service to the public, service to the nation, and service to the profession. The programs that the Auxiliaries are drawing up and any program they adopt in the future will also be based on service. In conformance with

this idea, one of the first things the Auxiliary in Alabama did was to offer its services to the Association's public relations group. The offer is appreciated and the services will be most gratefully used.

The first problem that the Auxiliaries have set for themselves is to become informed—informed on social conditions within the world, the nation, the state, and the local community; informed on the political questions before the country; informed on the economic aspects of a complex civilization.

In emphasizing the importance of first becoming informed, the Auxiliary is following the same line of thought as found in the public relations program for the Association, which program calls for study, work, and then action. The Auxiliary is undoubtedly acting wisely in first informing itself, for it is only an informed group which is capable of making proper decisions.

This search for information on the part of the ladies places an added responsibility on the shoulders of each and every one of us. When we are approached with a request for information, it is our responsibility to give that information to the best of our abilities. If the questions cannot be answered from personal knowledge, it behooves us to get the answers elsewhere and make them available to the ladies.

One thing should be stressed. The ladies are not saying, "Here is one part of your life we can run." Far from it. They are saying instead, "This is one phase of our lives together wherein we believe we can help. Won't you give us some assistance so that we may give you even greater assistance in return?" If that assistance be forthcoming, the returns will be greater than the initial effort.

Yes, the Woman's Auxiliary has come of age. It is assuming responsibilities and is looking forward to a fuller life of greater service.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

D. G. Gill, M. D.
State Health Officer

THE USE OF STREPTOMYCIN IN
TUBERCULOSIS

*A Report by the Committee on Chemotherapy
and Antibiotics of the American College of
Chest Physicians*

The Committee on Chemotherapy and Antibiotics of the American College of Chest Physicians submits the following report of the use of streptomycin in tuberculosis.

INDICATIONS FOR TREATMENT

Nearly all forms of tuberculosis respond to treatment with streptomycin in some degree. However, the drug should by no means be used indiscriminately.

Pulmonary Tuberculosis: It is extremely difficult to lay down hard and fast rules for the use of streptomycin in pulmonary tuberculosis. Especial care in the selection of cases is necessary. The drug has its greatest usefulness in cases with an appreciable amount of exudative disease. In some other cases streptomycin is responsible for symptomatic improvement and the prevention of complications.

1. Definitive treatment: This category includes chiefly progressive lesions of recent origin with little or no destruction of tissue, such as progressive primary tuberculosis and tuberculosis due to hematogenic and bronchiogenic dissemination.

2. Preparation for surgical procedures, including temporary and permanent collapse and excisional surgery. In some cases pneumothorax can be instituted sooner and with greater safety after a course of streptomycin. Not infrequently the drug is of great value in preparing patients as candidates for thoracoplasty. As prophylaxis, streptomycin should be used routinely in excisional procedures.

It must be emphasized again and again that streptomycin is *not* a substitute for sanatorium care and other proven procedures. Rather it is a valuable adjunct to these other measures.

Extrapulmonary tuberculosis: Streptomycin is the only treatment available in miliary

tuberculosis and tuberculous meningitis. In such cases early and intensive treatment is imperative. Streptomycin is the treatment of choice for tuberculous sinuses, tuberculosis of the oropharynx, larynx and tracheobronchial tree, tuberculous enteritis and peritonitis, tuberculous otitis media, and tuberculous pericarditis. In renal tuberculosis, symptomatic improvement is usually prolonged and bacterial conversion occurs in some cases. Tuberculosis of the bones and joints is often improved by streptomycin but chemotherapy is not a substitute for orthopedic surgery when this is indicated.

Streptomycin is valuable as preoperative and postoperative treatment of tuberculosis in surgery of the genito-urinary tract, surgery of bones and joints, pericardiectomy, incision and drainage of abscesses and fistulectomy.

ADMINISTRATION

Streptomycin is administered by intramuscular or deep subcutaneous injection. The optimal regimen for the administration of streptomycin has not been determined. In most forms of tuberculosis results appear to be satisfactory when a dose of 0.5 to 1 gram a day is administered in one or two injections for six to eight weeks. With this mode of therapy complications are very infrequent and in most cases their clinical importance may be discounted. In tuberculous meningitis and miliary tuberculosis treatment should be vigorous; a dose as high as two grams per day for four months, or longer if necessary. In tuberculous meningitis results seemingly are better when intramuscular injection is supplemented by intrathecal injection of from 25 to 50 milligrams every twenty-four to forty-eight hours for two of three months, or as long as this method of administration is tolerated by the patient.

Since drug fastness is apparently closely related to duration of treatment, regardless of the daily dosage, limitation of the period to a few weeks may be effective in avoiding this phenomenon in many cases.

The physician handling a case of tuberculosis would do well to ask himself the

following questions before administering streptomycin.

1. Why is streptomycin being used: for definitive therapy, as preparation for surgery, for prophylaxis, or for relief of distressing symptoms?

2. Is the type of lesion present of such a nature as to warrant the use of streptomycin in addition to other available therapy?

3. Can the purpose of chemotherapy be accomplished within the relatively short period of the drug's effectiveness? (Almost three-fourths of the patients show resistant organisms after three to four months of continuous daily streptomycin treatment.)

OTHER CHEMICAL AND ANTIBIOTIC SUBSTANCES

There is no other substance known today which compares with streptomycin in its effectiveness against tuberculosis. The sulfones, promin and promizole, are generally ineffective alone. Experimental work is in process to determine whether or not there is synergistic action when any of these are added to streptomycin. Para-aminosalicylic acid is promising on the basis of laboratory experimentation but sufficient clinical work has not yet been done to permit evaluation of this drug. Subtilin has not had sufficient clinical trial and there is not yet enough animal experimentation to indicate its usefulness. Of the many other antibiotic substances, none has shown in preliminary experimentation indication of real value against tuberculosis and none has had clinical trial.

BUREAU OF LABORATORIES

H. P. Sawyer, M. D., Director

SPECIMENS EXAMINED

SEPTEMBER 1948

Examinations for diphtheria bacilli and Vincent's	672
Agglutination tests (typhoid, Brill's and undulant fever)	1,334
Typhoid cultures (blood, feces and urine)	681
Examinations for malaria	823
Examinations for intestinal parasites	3,041
Serologic tests for syphilis (blood and spinal fluid)	30,941
Darkfield examinations	26
Examinations for gonococci	2,601
Examinations for tubercle bacilli	2,654
Examinations for meningococci	0
Examinations for Negri bodies (microscopic)	85
Water examinations	1,273
Milk and dairy products examinations	3,876
Miscellaneous	313

Total 48,305

BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

1948

	Aug.	Sept.	E. E.* Sept.
Typhoid	8	7	20
Typhus	32	17	59
Malaria	21	24	642
Smallpox	0	0	0
Measles	19	22	28
Scarlet fever	21	37	78
Whooping cough	58	29	52
Diphtheria	38	60	82
Influenza	12	20	65
Mumps	27	26	23
Poliomyelitis	54	49	8
Encephalitis	0	2	1
Chickenpox	6	3	5
Tetanus	4	6	5
Tuberculosis	246	314	283
Pellagra	2	3	4
Meningitis	7	4	4
Pneumonia	53	59	105
Syphilis	2582	1396	1399
Chancroid	41	12	14
Gonorrhea	616	467	611
Tularemia	2	1	0
Undulant fever	18	9	8
Amebic dysentery	3	3	1
Cancer	244	295	0
Rabies—Human cases	0	0	0
Positive animal heads	33	21	0

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF SANITATION

Arthur N. Beck, M. S. in S. E., Director

EARLY PRIVY PROGRESS

Contributed by

O. G. Quenelle, B. S., M. S.

Sr. San. and Pub. Health Eng.

If we turn back to about 1910 the pages in the public health history of Alabama, we find that one of the greatest problems of the period was hookworm disease. By this time the life cycle of the worm was well known to the medical profession. This had been traced in 1895 by Looss in Cairo, Egypt. The presence of hookworm in America had been made known about 1900 by Dr. C. W. Stiles, a young surgeon in the U. S. Public Health Service. Further study had proved it to be widespread in the South.

A great deal of interest was being shown by 1910 in the burden of hookworm disease on the South. That year the Hookworm Convention met in Atlanta. This meeting came about when Mr. Wilbur L. Moore of Atlanta was aroused by an article in a popular magazine which he thought must have been written by an enemy of the Southern States. He consulted the State Health Department of Georgia and learned that conditions were much worse than he had thought. He then took the matter up with

the Atlanta Chamber of Commerce, a committee was formed, and a convention was called. Those in attendance were governors, municipal officials, and representatives of commercial bodies. Members of the Rockefeller Sanitary Commission were asked to attend. This convention resulted in the Southern Health Conference, and all philanthropic citizens were eligible. Just prior to this, Mr. Rockefeller had generously donated one million dollars to be used in eradicating the disease in the Southern United States. This outstanding contribution was made known to the public at the Hookworm Convention.

During the year the Alabama State Board of Health sent Dr. Henry Gaither Perry to Johns Hopkins to study the technique of hookworm diagnosis. Actual field work in Alabama began in October of 1910 under the auspices of the Rockefeller Sanitary Commission and the State Health Department. The operating force consisted of the State Director, the State Health Officer, and three field men, Drs. H. G. Perry, J. Frazier Orr and W. W. Perdue. The Sanitary Commission composed of several very able men lent their help and influence.

It is significant to note that the President of the Medical Association of the State of Alabama, in his report to the Association in 1910, asked the question: "What are we to do to prevent reinfection from the soil still laden with ova?"

In 1911, at a meeting of the State Medical Association, Dr. William W. Dinsmore of Montgomery gave a paper, "The Present Status of the Hookworm Campaign in Alabama." The survey had revealed that 63 of the 67 counties had hookworm infestation, the heaviest being in the southeast counties. He had recommended that education and organized sanitation be started in Houston, Geneva, Coffee, Dale and Covington counties, and that districts be set up of four to eight counties each. One field man would be placed in each district. The cooperation of the local health department, organized medicine, organized press, and the public schools was to be used in the education program. The first phase of the work covered 111 schools with 4500 school children. Many addresses were made to the public. A total of more than 200 lectures was heard by approximately 25,000 people, and 100,000 leaf-

lets on hookworm disease were distributed. Dispensaries were set up to give treatment. The doctors reported an increase in patients wanting treatment. In 5 counties 14 dispensaries treated 7500 cases in 7 months.

It was then that Dr. Dinsmore mentioned the use of the modern sanitary privy. He advanced a plan using a fly-tight box with lime or dirt which, when full, would be taken out and burned. He said, "The people must be taught how to construct and properly care for the modern sanitary privy."

In the discussion, Dr. Wickliffe Rose said that a doctor in Porto Rico had remarked that it is all relative; "That two forked sticks across a hole in the ground is a sanitary privy." Dr. Rose said, "So far as disposing of the feces is concerned, burying it two feet in the ground I would consider better than scattering it."

At the meeting of the State Medical Association in 1913, Dr. C. A. Mohr of Mobile called for sanitation to be organized and recommended that as many educators as possible be put in the field. He strongly endorsed the use of the septic tank.

The septic tank came into use in France about 1881-82. The early septic tank was based on being air tight and had no ground absorption field. It had to be pumped out. The present septic tank was developed over some years.

At the same meeting Dr. Francis A. Webb said, "We have got to take our people just as they are and not as we want them to be. State-wide legislation is needed."

Dr. James P. McMurphy of Atmore suggested that no privy be closer than 100 feet to a well; "that the towns build them and charge the cost to each property owner. In this way only can we get a uniform closet. It will be more economical." He had in mind a box and can privy and recommended state control in small towns.

As time went on a great deal of concern developed over the hookworm situation in Alabama. The big question in the minds of our public health leaders was: What shall we do about the disposal of human wastes? Of course, the sewered sections of the cities were not a part of the problem. A solution was needed for safe disposal in the unsewered sections of cities, in the small towns with no sewers, and throughout the rural areas. Many ideas and plans had been ad-

vanced, some with considerable merit. Although none had been accepted as suitable for broad, over-all application, our pioneers were not standing idly by. The box and can type was being installed in several places and many observations were being made. Organized effort took shape rapidly. On June 1, 1914 a full-time county health unit was set up in Walker County with Dr. C. A. Grote in charge. Soon Tuscaloosa, Jefferson and Talladega counties followed. By the end of 1922, nineteen county health units had been started. The time had come when a decision should be reached by our responsible health leaders on the type of feces disposal for state-wide application.

At the meeting of the State Medical Association in 1922, a paper was given by Dr. Douglas L. Cannon, County Health Officer of Pike County, on the pit privy. This was an excellent discussion in favor of the general use of the earth pit privy. There is evidence that much good thought and analysis went into this discussion. It was probably the turning point from which our public health leaders began looking with increasing confidence toward the earth pit privy as the best solution to the problem.

Dr. W. K. Sharp, Jr., of the U. S. Public Health Service, gave some discussion of Dr. Cannon's paper and explained some of the soil conditions in Alabama with reference to using the earth pit.

Dr. S. W. Welch, State Health Officer, gave heavy support to Dr. Cannon's paper. He related a recent experience he had had in Chicago. On a visit there he found posters were being used to advertise the fact that the South was full of hookworm and typhoid. He did not understand this until six months later when he learned that a development company was advertising Saskatchewan, Canada as a good place to live. The adverse advertisement for the South was being used until the Saskatchewan Development could be gotten under way by the development company.

During the years 1922 to 1927 considerable organized effort was directed toward sanitation, using the U. S. Public Health Service wood type pit privy and the box and can type. On September 9, 1927, public health legislation was passed which gave the Alabama State Board of Health authority to make plans and specifications for the con-

struction and maintenance of earth pit privies and other forms of sanitation. This was approved as amendment to Section 1134 of the Code of 1923 and is now Section 7 of Title 22 of the Code of 1940. It was under this provision that the present concrete slab privy was developed.

Early in 1928 the State Board of Health started out on state-wide standardization, using the new type earth pit privy and a well planned septic tank. Organized programs were carried out under the law in the face of many difficulties, some of which still had their roots imbedded in the lack of public health education. As time has passed the public has, of course, become more informed and now, although not completely eradicated, the intensity of hookworm infestation has been greatly reduced.

It is interesting to note that early planning of the pit privy was based almost entirely on the need for hookworm control with but little mention being made of its value in preventing other diseases.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

INFANT MORTALITY IN ALABAMA

Contributed by

Stanley W. Laird, A. B.

Principal Statistician

Almost six babies out of every hundred born in Alabama in the past twenty years died before they reached their first birthday. Medical and public health efforts before World War II had regrettably little effect in reducing the number of deaths of infants under one year of age. Only during the last six years has appreciable improvement been made in the infant mortality rate. These gains were maintained and extended in 1947 when Alabama infant death rates showed a reduction from the previous all-time low rate of 37.7 per 1,000 live births for 1946. The 1946 Alabama mortality rates for both white and colored babies were slightly below the national rates. The white rate in this State was 31.7, while for the United States it was 31.8. The non-white rates for Alabama and the United States were 48.8 and 49.5, respectively. The continued general downward trend in infant death rates since 1941 denotes encouraging progress in the field of infant care at a time

when medical facilities in many communities are overtaxed by a great increase in the number of births and a shortage of physicians and nurses.

The need for adequate obstetrical care and for nursing services as a means of further reducing infant mortality is dramatized by the fact that in 1947 more than half the infants who failed to survive the first year of life died during the first week. There were 1,837 deaths of babies less than a week old as compared with a total of 3,220 deaths of all infants under a year of age. On approval of the attending physician the public health nurse can make home visits to advise and assist the mothers.

Midwives delivered more than one-fifth (21.7 per cent) of all babies born in Alabama in 1947 and more than one-half (56.8 per cent) of all Negro babies. An increased effort should be made to render public health nursing services to those mothers who are attended by midwives. The percentage of births attended by physicians increased from 64.6 in 1937 to 78.1 in 1947, but the 1,046 deaths in 1947 of infants under one day old would undoubtedly have been fewer had the benefits of medical attention been obtained for a larger number of the births. Deaths during the first day represented almost a third of all infant deaths. Males numbered 604 and females 442. Even at this tender age higher mortality rates for males prevail, and the differential continues until past age 75. This excess of male deaths also is present in data for the whole nation, giving American white women a life expectancy at birth of 69.5 years as compared with an expectancy of 64.4 years for white men. For the non-white population, the life expectancies were 59.6 and 56.1 for females and males, respectively. (U. S. Abridged Life Tables, 1945, U. S. Public Health Service.)

The percentage of infant deaths taking place during the first day of life has increased during the past two decades from 24.6 in 1927 to 32.5 in 1947. This rise in the relative standing of the number of deaths of newborn babies indicates that comparatively little of the recent progress in reducing infant mortality has been realized in the under-one-day age group. From 1927 to 1946 the death rate for infants under one year old was reduced by 41.3 per cent, while for the under-one-day category the reduction in the

rate was only 20.3 per cent. These data indicate the desirability of a concentrated effort to reduce mortality during the early hours of life. Adequate prenatal care and medical attendance at birth appear to offer the greatest chances for success in this field.

The risk of dying, which is so great during the first day of life, decreases appreciably after the first week and continues to decline for each period throughout the first year. Only 307 of the 3,220 infant deaths in 1947 occurred after the children were six months old.

The cause of death which appeared most frequently on death certificates was premature birth. In 1947 a total of 1,026 deaths (nearly a third of all infant deaths) was attributed to prematurity. In 1946 (the most recent year for which tabulations have been completed) the premature infant death rate was 344.3 per 1,000 premature births. During the same year the death rate for all infants was 37.7 per 1,000 live births. The premature and total mortality rates for white infants were 297.9 and 31.7, respectively. For colored infants the premature and total rates were 482.9 and 48.8. These premature infant death rates, nearly ten times the death rates for all infants, call attention to the need for more adequate facilities for the care of premature babies. This need is particularly acute for premature colored infants. An effort to reduce the premature death rate is being made by the Bureau of Maternal and Child Health by providing thirty county health departments with baby incubators. These will be loaned by the local health officer to physicians for home care of premature babies.

The second major cause of death of infants under one year of age in 1947 was respiratory disease. This cause took 371 lives, 348 being due to pneumonia. Injuries at birth came third with 336 deaths, of which only six occurred after the first month of life. Congenital malformations took 285 infant lives, diarrhea and enteritis 91, whooping cough 84, congenital debility 58, accidental suffocation 31, syphilis 29, and ill-defined and unknown causes 435. The majority of the deaths with cause ill-defined or stated as unknown occurred without medical attention.

The reductions in diarrhea and enteritis death rates reflect the great advances which

have been made in medicine and public health since the First World War. In 1917 there were 1,560 deaths from diarrhea and enteritis in Alabama of children less than two years old, with a death rate of 68 per 100,000 population. In 1947 there were only 100 deaths from this cause, giving a rate of 3.3. In other words, the death rate from diarrhea and enteritis in 1917 was more than 20 times the rate in 1947, and this decrease appears to be continuing through 1948.

More than two-thirds of the infant deaths in 1947 from whooping cough were of babies under six months of age. Fifty-nine of the 84 certificates listing infant deaths from this cause gave the age of the decedent as less than six months. As a result of these statistics, and from other considerations, the State Health Officer has warned parents not to wait too long before having their children inoculated against whooping cough. He advised immunization at around three months of age in most cases.

In 1946 there were 6,247 babies born to unmarried mothers who were residents of Alabama; and during the course of the year 348 illegitimate babies died. This gives a death rate of 55.7 for illegitimate infants as compared with a death rate of 37.7 for all infants. There is a greater difference between the white total infant death rate and the white illegitimate infant death rate than between the colored rates in these categories. The white illegitimate infant mortality rate was 72.1 per 1,000 illegitimate births as compared with a total white infant death rate of 31.7 per 1,000 births, whereas the colored illegitimate and total rates were 53.4 to 48.8, respectively. This white rate was based on only 55 births, but it indicates that some of the illegitimate babies may not have received proper care.

Colored infant mortality in the State has been consistently higher than that for white infants. In 1946 the rates for white and colored, respectively, were 31.7 and 48.8 for babies under a year of age, and for babies in the neonatal classification (under one month) the white rate was 23.9 and the colored rate 31.7.

Infant death rates declined by almost 57 per cent in the thirty years from 1917 to 1947, but approximately two-thirds of this decrease has taken place since 1941. The greatest victories have been scored against

gastro-intestinal and infectious and parasitic diseases. Deaths from premature birth have declined very little, but this problem is now being attacked. The death rate for babies born out of wedlock is significantly higher than the rate for all infants. Medical attendance at birth is increasing each year, but in 1947 21.7 per cent of all births in Alabama were attended by midwives.

BIRTH AND DEATH CERTIFICATES ARE REVISED

The decennial revision of live birth, death and stillbirth certificate forms has been completed. They are available through County Health Departments and local registrars. The revision of certificates has been geared to the 1950 census and the decennial revision of the International Statistical Classification of Diseases, Injuries and Causes of Death. Revision this year will make possible collection of data which are comparable for the three years centering on the census year. Population data obtained through the 1950 census will provide a basis for computing reliable vital statistics rates for counties and small areas. The objective, therefore, is to put the new certificates into effect on January 1, 1949. This action is essential also for coding cause-of-death because the new coding procedure commencing in 1949 will be based on the revised medical certificate. Success of the revised certificates and the new International List of Diseases and Causes of Death will require the full cooperation of each physician. An accurate statement of cause of death cannot be obtained if the physician is unwilling to give it. Since the medical profession itself is the primary beneficiary of cause-of-death statistics, the majority of practitioners consider that accuracy in stating the cause of death is a responsibility which they owe to their colleagues. The health of a community, or a nation, is heavily dependent upon prompt and accurate cause-of-death reporting and resultant health statistics.

Physicians are urged to use none but the revised certificates beginning January 1, 1949. The Physicians' Manual on Birth and Death Registration is being revised and will be distributed as soon as printed. It will include the new International List of Causes of Death.

**PROVISIONAL BIRTH AND DEATH STATISTICS
FOR AUGUST 1948, AND
COMPARATIVE RATES**

Live Births, Stillbirths, and Deaths by Cause	Number Registered During Aug. 1948			Rate* (Annual Basis)		
	Total	White	Colored	1948	1947	1946
Total live births.....	6861	**	**	26.6	27.5	29.1
Total stillbirths.....	183	**	**	26.0	31.5	28.5
Deaths (stillbirths excluded).....	1884	1108	776	7.3	8.0	7.4
Infant deaths:						
under one year.....	235	134	119	34.3	32.8	33.6
under one month.....	199	108	91	29.0	25.5	26.1
Cause of Death						
Typhoid and paratyphoid fevers 1, 2.....					0.8	0.4
Cerebrospinal meningitis 6.....	1	1		0.4	0.4	0.8
Whooping cough 9.....	1		1	0.4	3.5	1.6
Diphtheria 10.....					0.4	0.8
Tuberculosis, all forms 13-22.....	79	32	47	30.7	33.8	34.9
Malaria 28.....	2		2	0.8	1.9	0.8
Syphilis 30.....	25	4	21	9.7	7.0	10.6
Influenza 33.....	2	1	1	0.8	2.3	2.7
Measles 35.....						0.8
Poliomyelitis 36.....	1	1		0.4		0.8
Encephalitis 37.....					0.4	0.4
Typhus fever 39.....	2	2		0.8	0.8	0.4
Cancer, all forms 45-55.....	201	141	60	78.0	79.6	75.3
Rheumatic fever 58.....					***	***
Diabetes mellitus 61.....	29	23	6	11.3	14.0	9.0
Pellagra 69.....	5	5		1.9	2.3	3.1
Alcoholism 77.....	5	4	1	1.9	2.7	1.2
Intracranial lesions 83.....	189	94	95	73.3	75.7	64.3
Other diseases of nervous system 80-82, 84-89.....	23	16	7	8.9	***	***
Diseases of the heart 90-95.....	400	265	135	155.2	189.0	154.9
Diseases of the arteries 96-99.....	17	11	6	6.6	10.1	10.2
Other diseases of the circulatory system 100-103.....	9	4	5	3.5	***	***
Bronchitis 106.....	5	5		1.9	1.9	
Pneumonia, all forms 107-109.....	57	36	21	22.1	22.5	23.5
Diarrhea and enteritis, under 2 years 119.....	22	13	9	8.5	5.8	3.9
Diarrhea and enteritis, 2 years and over 120.....	7	6	1	2.7	3.1	0.8
Appendicitis 121.....	5	5		1.9	3.9	3.9
Hernia and intestinal obstruction 122.....	8	6	2	3.1	7.8	7.1
Cirrhosis of the liver 124.....	10	10		3.9	2.3	4.3
Nephritis, all forms 130-132.....	136	77	59	52.8	49.7	49.0
Other diseases of the genito-urinary system 133-139.....	19	11	8	7.4	***	***
Diseases of pregnancy and childbirth 140-150.....	16	9	7	22.7	24.6	31.4
Puerperal septicemia 140, 142a, 147.....	4	2	2	5.8	8.2	14.4
Congenital malformations 157.....	31	20	11	4.5	***	***
Suicide 163, 164.....	15	15		5.8	6.2	9.4
Homicide 165-168.....	42	9	33	16.3	17.5	14.9
Accidental deaths 169-195.....	158	110	48	61.3	66.4	61.2
Motor vehicle accidents 170.....	70	49	21	27.2	24.1	22.0
All other defined causes.....	223	135	88	86.5	130.0	125.9
Ill-defined and unknown causes 199, 200.....	139	37	102	53.9	47.0	55.7

*Birth and death rates per 1,000 population; stillbirths per 1,000 total births (stillbirths included); infant deaths per 1,000 live births; deaths from specific causes per 100,000 population; deaths from puerperal causes per 10,000 total births. All rates are based upon the August report of the years specified.

** Not available.

***Included with "All other defined causes" in 1946 and 1947

Fenestration Operation for Otosclerosis—Doubt as to the results actually being secured even by the leading surgeons performing many fenestrations has been created by a most unfortunate tendency for dissention among them over the manner in which results have been assessed, especially in quoting percentages of successful and unsatisfactory cases. There has been a further, if understandable, uncertainty created by some leading surgeons who, sometimes on the basis of quite slender evidence, announce some modification in technic which they flatly state to be, or clearly infer, is the final answer to one or other problems of the operation. At a later time they make a further announcement which partly or completely disregards the first, without taking the trouble to explain that the previous technic proved unsatisfactory for one reason or another. This is most unfortunate since it is unnecessary and creates confusion and doubt.

It is hoped that the really significant and scientific research which is now being carried on in several centers will yield some of the answers to the problems, and that the results will be announced to the waiting world only after confirmation and proper statistical study, in a manner which will restore the confidence of all in this quite wonderful advance in otology.

Despite serious problems still awaiting full solution, despite criticism and disbelief, in the face of the technical difficulties of the operation, which is surely one of the most intricate and delicate in the whole realm of surgery, and notwithstanding the very great disappointment to patient and surgeon when it fails for any reason, there can be no doubt but that fenestration for clinical otosclerosis is here to stay. Even with its uncertainties and present day imperfections, it can lead to the rehabilitation of persons seriously handicapped by deafness in the very middle of the best years of their lives. It can restore them to happy human beings, socially and economically. It does this, make no mistake, even if not as often as anyone could wish.

The future is certain to bring forth improvements in technic by which the operation will be perfected. This is not too much to expect in the light of the fact that the modern operation of fenestration is now only eleven years old.

While we all wait for this future to become the present, it is the humble opinion of the author, based on his own experience, that all otolaryngologists should put aside their doubts and skepticism regarding the fenestration operation. He suggests that they study the indications for the operation closely, be on the watch for and select suitable cases carefully, and offer them the operation at the hands of a fully trained and highly skilled surgeon.—*Morrison, New Orleans M. & S. J., Nov. '48.*

1949 SESSION
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BOOK ABSTRACTS AND REVIEWS

Your Skin and Its Care. By Howard T. Behrman, M. D., and Oscar L. Levin, M. D. Cloth. Price, \$2.50. Pp. 255, with illustrations. New York: Emerson Books, Inc., 1948.

This small book should be of interest to most women but it is doubtful if the advice contained in the chapter on cosmetics will be heeded.

Many conditions commonly affecting the skin are briefly described and as briefly disposed of.

As a whole, the advice given is sound but some of the statements concerning the effect of foods upon the skin are controversial.

The sections dealing with the anatomy and physiology of the skin and its relationship to the general health are good.

This book is intended for the average laywoman but it is hard to see just what she will get out of it.

F. W. Riggs, M. D.

Successful Marriage. Edited by Morris Fishbein, M. D., Editor, *Journal of the American Medical Association and Hygeia*, *The Health Magazine*; and Ernest W. Burgess, Ph. D., Professor and Chairman, Department of Sociology, University of Chicago. Cloth. Price, \$7.50. Pp. 547. Garden City, New York: Doubleday and Company, Inc., 1947.

In the infinite variety of human mores, there is no pattern which calls into play so many forces as does marriage. No other is as universally imposed, as jealously guarded by threat and taboo, as foreordained to failure in the inherent complexity of interacting psychological, philosophical, sociological, religious, biological and a host of other pressures. The wonder is that it has survived relatively unchanged with such statistical success. An ever growing statistic reflecting in a very small measure its failures, however, and an informed relaxation of that form of alum-puckered delicacy which forbade the open investigation and discussion of its intimacies have produced a variegated literature reflecting man's insecurity and preoccupation with this challenge to his adjustment abilities and potentialities. To this literature Doctors Fishbein and Burgess have added here still another and one of the better of such books. In his preface, the Senior Editor indicates that this collection of papers by authors, "widely known for published research in the topics assigned to them" was prepared for the general reader and for the many persons who regularly consult marriage counselors.

The contributors are largely physicians, marriage counselors and sociologists, and their topics are, in the main, pertinent to the title. The relevancy of a chapter on "Prostitution in the U. S." to such a book is questionable. The unevenness and overlapping to be expected in such a collection is not painfully obvious, although a more uniform conception of the intellectual, cultural and educational equipment of the "average

reader" would tend to reduce the fatigue of rapid changes of intellectual accommodation.

The book is divided into five parts. The first deals with "Preparation for Marriage," concerning itself with love, the choice of a mate, courtship, engagement, premarital sex relations, physical examination, etc. The second part is devoted to the "Marriage" with discussion of such diverse topics as coital technique, home management, extramarital relations, miscarriage and abortions. The third and fourth parts are concerned with Conception, Pregnancy, Childbirth and the Child in the Family. The final part reviews "Social Problems of a Marriage."

The Editors have been assiduous in their determination to present a comprehensive guide for the "average reader." The prospective bride and groom certainly, and many retrospective husbands and wives advisedly, would do well to add such a book to their library.

Philip S. Bazar, M. D.

A. M. A. Intern's Manual. Prepared by Councils and Bureaus of the American Medical Association. Completed and edited in the office of the Council on Pharmacy and Chemistry. Cloth. Price, \$2.25. Pp. 209. Philadelphia and London: W. B. Saunders Company, 1948.

Since 1932 the Council on Medical Education and Hospitals and the Council on Pharmacy and Chemistry of the American Medical Association have attempted to provide interns with a handbook which would be adequate for their needs and at the same time concise. This present volume is the latest in a series of such handbooks and represents the results of experience gained through the presentation and use of previous volumes.

This little book contains a section devoted to General Information on Internships and Residencies which should prove to be of value to a young man approaching his internship. A second section, Clinical and Laboratory Data, deals with common emergencies, their diagnostic criteria, and such measures as an intern may be expected to institute pending the arrival of the attending physician. The third section, Drug Administration, gives a basic discussion of the dosage, methods of administration, prescription writing, together with much valuable information on such subjects as weights, measures, and solubilities. The fourth section, *Materia Medica*—Useful Drugs, is presented in this volume in an alphabetic arrangement. The fifth section, Acute Poisoning: Diagnosis and Treatment, gives a brief summary of the commonly met emergencies due to poisoning, outlines criteria for their recognition and lists emergency treatment procedures. Section VI is devoted to discussion of Diet and Nutrition and supplies basic information on an adequate normal diet as well as the variations

required by special diets for diseased states. Section VII, Physical Medicine, was prepared by the Council on Physical Medicine. The Bureau of Legal Medicine and Legislation compiled Section VIII, Lawful Scope of Intern Practice. In this section the intern is made aware of his legal status in the various states. Section IX, The American Medical Association, contains a description of the American Medical Association and the various bodies which comprise this association and is designed to serve as an introduction for the intern to the functions of the organization.

While this little book is designed primarily for interns and residents, many practitioners may find its concise, pointed statements on various medical emergencies to be a handy reference and well worth having on the bookshelf. Its handy pocket size makes it easy to carry in a bag or in the glove compartment of a car.

J. M. Barnes, M. D.

Your Baby. The Complete Baby Book for Mothers and Fathers. With Special Record Section. By Gladys Denny Schultz, Contributing Editor, *Ladies Home Journal*; and Lee Forrest Hill, M. D., Former President, American Academy of Pediatrics. With photography by Joseph Di Pietro and line drawings by Reisie Lonette. Cloth. Price, \$3.50. Pp. 278. New York: Doubleday and Company, 1948.

From the front cover to the back, craftsmanship characterizes this book—the loveliest of its kind ever seen. Everything about it is appealing, the photographs especially so—executed, as they have been, with great care by Joseph Di Pietro. The paper is of the highest quality and the type size excellent. Marginal cues give easy access to the subject matter.

The authors are to be commended for bringing out a volume of "vital information incorporating latest changes in medical thinking, every idea set forth in the book having been tried by hundreds of mothers who have found that their tasks have been made pleasanter and easier." Obstetricians and pediatricians may recommend it with confidence to all expectant mothers and fathers, who

will treasure especially the record section constituting the closing pages of the book.

Douglas L. Cannon, M. D.

Essentials of Pathology. By Lawrence W. Smith, M. D., F. A. C. P., formerly Professor of Pathology, Temple University School of Medicine, and formerly Assistant Professor of Pathology, Howard Medical School; and Edwin S. Gault, M. D., F. A. C. P., Associate Professor of Pathology and Bacteriology, Temple University School of Medicine. Third edition. Cloth. Price, \$12.00. Pp. 764, with 740 illustrations and 201 case histories. Philadelphia and Toronto: The Blakiston Company, 1948.

This textbook of pathology I have known in former editions and have believed the portion on tumors to be especially good, but the case histories to be unnecessarily long and detailed for second-year medical students. The new 3rd edition is a great improvement. The case histories, a unique feature of this text, have been condensed and a number have been omitted. The page size has been reduced, and the text has been completely reset, revised, and augmented with new material. The bibliography is practical and up-to-date.

The volume is still somewhat lengthy for the second year medical student, in my own opinion. It lacks the easy charm of Boyd's text, the succinct and terse statements of Anderson's "Synopsis," and the encyclopedic authority of Anderson's new "Pathology," contributions of many pathologists in one huge volume, just published.

Smith and Gault's numerous plates, many in color, are effective, and give the volume some of the attributes of an atlas, which is all to the good in a pathology text. A single plate may exemplify the gross and roentgenologic features along with the histopathologic.

In brief, this volume is among the several best modern textbooks of pathology, and can be enthusiastically recommended to the medical student. Moreover, the house-officer and practising physician will wish to utilize it. The quality and quantity of histopathology make it of aid to the candidate for specialty board examinations.

Rodger D. Baker, M. D.

AMERICAN MEDICAL ASSOCIATION NEWS

PEOPLE TOLERATE CHIROPRACTIC IGNORANCE

Chiropractors are a public health menace, points out Morris Fishbein, M. D., Chicago, editor of *Hygeia*, health magazine of the American Medical Association.

An editorial by Dr. Fishbein which appears in the December issue of *Hygeia* says in full:

"The chiropractic theory holds that all diseases and illnesses are due to one cause—a dislocation from its accustomed place of some one or more of the spinal vertebrae. If the chiropractors could prove it, when these dislocations or subluxations occur, the little holes between the bones are narrowed and there is pressure on the nerves that pass through them.

"Such pressure, say the chiropractors, prevents the nerve from doing its work properly. Now if you are willing to believe this theory, cure of any disease could be attained by simply pushing the bone off the nerve and keeping it off the nerve. This the chiropractor does in most instances, or at least so he says, by putting the patient's face down on his table and then pushing the dislocated vertebra into place.

"If chiropractors could really prove scientifically what they claim is chiropractic, there would be nothing to diagnosis of disease but their simple mechanical performance. We could disregard germs, viruses, spirochetes, digestive disturbances related to overeating, even alcoholism and drug addiction. Unfortunately, to use the vernacular commonly employed by chiropractors, 'it just ain't so.'

"As nearly as can be determined, there are about 16,000 chiropractors in the United States. This is practically all the chiropractors there are in the world because foreign nations have not recognized the existence of this alleged healing cult. Here and there in some foreign country a chiropractor has settled and has practiced his technic.

"Chiropractors in this country do not hesitate to claim that they have treated royalty, statesmen, generals, and other notable persons in various places. Unfortunately for them, there is no evidence to support these claims.

"Chiropractic education, if it can be called education, is dispensed in a variety of schools with a variety of standards. As late as 1941, the chiropractors themselves were complaining bitterly about the low state of education in their schools, and J. J. Nugent, director of education for the National Chiropractic Association, himself said that 'An inspection of a number of schools throughout the country made during the past year . . . revealed a heterogeneous and disordered scene.'

"He recognized that the day of the short course is gone, and he proposed the establishment of a standard curriculum with a standard preliminary study. Perhaps the chiropractors are trying to imitate the osteopaths in making their schools low grade medical schools and thus come into the medical profession by the back door.

"Actually, chiropractic basic education is mighty poor. In 17 states and in the District

of Columbia laws have been enacted that require applicants for licenses to practice healing in any form to demonstrate their proficiency in certain basic sciences. Out of 440 chiropractors who undertook to pass the examinations, only 28 per cent passed. During the same period more than 25,000 medical students or graduates took these examinations, and 86 per cent passed.

"The status of chiropractic licensure is even more involved. Many states have independent chiropractic boards. Some states simply examine chiropractors as drugless healers. Other states license chiropractors through the state medical licensing board, on which there is one chiropractic member, and a few states require chiropractors to take the regular medical examination before the state medical licensing board.

"Remember that only the states of the United States recognize chiropractic as a form of healing and provide for licensure. In these various states you can get about as many different definitions of chiropractic as there are states. Through the National Chiropractic Association the chiropractors are provided with lawyers, lobbyists, promotional agencies, and the usual pressure agencies to keep them from losing the legal status that they have acquired and to try to secure for them similar legal status in other places.

"In recent years articles exposing the fallacies of chiropractic have appeared in many periodicals, but apparently the American people simply cannot learn that the kind of science practiced by the chiropractors bears no relationship to scientific medicine. Chiropractors practice cheaply because most of their equipment lies in their muscles. If they limited their treatments to the conditions which would be benefited simply by psychotherapy or the laying on of hands, they would not be such a public health menace as they really are.

"The chiropractor does not hesitate to treat infectious diseases from anthrax to whooping cough or cancers, tumors, and even conditions such as multiple sclerosis and Parkinson's disease in which medicine admits frankly that there is not much to be done.

"In an article on chiropractic published in *Hygeia* in April, 1946, the following conclusions were reached:

To a limited degree, legislation can help minimize this danger by making chiropractic education conform to at least a minimum basic standard and by limiting and regulating the practice. No law has ever been written that can keep people from patronizing chiropractors—or, for that matter, palmists, witch doctors, or voodoo cultists.

Final answer for the individual—the man with an ache in his back, the woman who “feels run down,” the parent whose child is running a strange fever—must lie in an understanding of the limitations of any school of healing which separates itself from most modern discoveries and from the main stream of scientific thought. As a whole, elimination of this danger to the nation's health seems to lie in education—and in more and better doctors.

“The United States Army, Navy, and Air Force do not utilize chiropractors for the diagnosis and treatment of disease. However, many of our states are willing to submit their citizens to these tender (?) mercies. There are records of men and women who have had their spines fractured by the chiropractic thrust. There are records of diphtheria and scarlet fever overlooked. There are instances of inflamed gallbladders made worse and cancers neglected.

“There are indeed so many manifestations of chiropractic ignorance applied to disease that one wonders how long an intelligent people will continue to tolerate this monkey business.”

FIND AUREOMYCIN EFFECTIVE AGAINST BACTERIAL DISEASES

Aureomycin, the golden-colored antibiotic drug, may be useful in treating many diseases caused by bacteria, believe three physicians from the Thorndike Memorial Laboratory, Second and Fourth Medical Services, Boston City Hospital, and the Department of Medicine, Harvard Medical School, Boston.

Writing in the November 27 issue of The Journal of the American Medical Association, Maxwell Finland, Harvey Shields Collins, and Tom Fite Paine Jr., report on a series of laboratory tests of the drug and a clinical trial on 100 patients with various bacterial infections.

The physicians say:

“While the observations of other workers, both in experimental animals and in human beings, suggest that the major field of usefulness of aureomycin may be in the treatment of infections with rickettsias or with viruses, the results in the present cases suggest that aureomycin may be useful in a

large variety of bacterial infections. It therefore deserves a more extended clinical trial.”

Aureomycin has several important characteristics, they found.

1. In contrast to streptomycin, there is no significant tendency for microbes to develop resistance to aureomycin, either in laboratory tests or in patients treated with the drug.

2. Toxic effects on patients are “minimal and infrequent.”

3. There is evidence that aureomycin remains in the body for two or three days after a single dose.

4. As a dry powder in sealed capsules it maintains its potency for at least seven months at usual room temperatures.

The physicians administered aureomycin by mouth.

Results in 66 patients treated for gonorrhea were “satisfactory but distinctly inferior to those obtained with a single injection of penicillin.”

One patient with early symptoms of meningitis and in whose blood were found the microbes which cause epidemic cerebrospinal meningitis was “much improved” and had no fever 18 hours after taking the first dose of aureomycin.

In a group of 16 patients treated for severe infections of the urinary tract, results were considered good in six. The treatment was considered to have failed for two, and to be of doubtful value for others.

“The results in patients treated for infections of the urinary tract were comparable, if not superior, to those obtained with streptomycin or sulfa drugs in similar cases,” the physicians comment.

Four patients were treated for pneumonia, and the results in all cases were good.

Five patients were treated for typhoid fever. Results were considered good in one patient, doubtful in two, and the treatment was considered to have failed for two patients.

Two patients were treated for severe inflammation of the intestine. Results were considered good in one, and the treatment was considered to have failed for the other.

The treatment was considered unsuccessful for one typhoid carrier, one patient with relapsing fever, and four patients with inflammations and abscesses caused by various bacteria.

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A PROGRAM FOR THE PREVENTION OF DEAFNESS

FIRST YEAR'S RESULTS AT THE MEDICAL COLLEGE OF ALABAMA

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There are approximately eighteen million deaf or partially deaf individuals in the United States whose treatment in adult life has proved disappointing. Only in recent years has it been recognized that adults with chronic progressive deafness began to lose their hearing in childhood, and that if deafness can be detected in early life and treatment instituted at that time there would result a great reduction in this crippling handicap in the next generation. The emphasis must be placed on preventive medicine in the child, for after puberty the changes leading to permanent deafness are irreversible and treatment is usually of no avail except in otosclerosis.

Since Crowe and his associates at Johns Hopkins Hospital began their studies on hearing impairment in children, several known facts have become reemphasized and others firmly established. They found that an overgrowth of lymphoid tissue in the nasopharynx, causing partial obstruction of the eustachian tubes for a number of years, produces permanent changes in the middle ear. Mucous secretions in the tympanum become myxomatous and are finally organized into fibrous tissue, interfering with the movement of the ossicles and the tympanic membrane, producing consequent loss of conduction of sound across the middle ear. The best means of detecting this process in children is by testing the hearing with

the electric audiometer and tuning fork, examining the tympanic membrane for evidence of retraction, and inspecting the nasopharynx with the electric nasopharyngoscope to determine the extent and distribution of the lymphoid tissue in relation to the eustachian tube orifices. Surgical removal of the tonsils and adenoids often results in dramatic improvement of hearing but this improvement may again be lost because of a compensatory hypertrophy of the lymphoid tissue which is an integral part of the nasopharyngeal mucosa and cannot be removed in its entirety by surgical means. Crowe states that seventy-five percent of children undergoing adenoidectomy before puberty will have a regrowth of adenoid tissue, and that this must be considered a normal phenomenon. Although the amount of regrowth is, of course, variable, it is nevertheless necessary to reexamine these children yearly and provide means to keep the lymphoid tissue hypertrophy at a minimum and the eustachian tube patent. If this procedure can be carried out through puberty, the individual will almost certainly have no hearing loss from this commonest of all causes.

In performing audiometer tests on children prior to puberty, it has been found that most frequently the hearing loss is in the high tones only; a phenomenon that was formerly thought to be indicative of nerve or

perception type deafness. Such a loss is the first sign of progressive hearing deficiency which usually extends octave by octave into the conversational range of tones. The importance of this finding is that many people who were thought to be afflicted with nerve deafness, for which there is no cure, will now be placed in a category of those amenable to treatment, with excellent prospect of regaining normal hearing. Should the child have some other primary cause for impaired hearing there is almost invariably a superimposed hearing loss of variable degree from partial eustachian tube obstruction caused by lymphoid hyperplasia. Therefore every child with evidence of such obstruction should have treatment to restore and maintain eustachian tube patency. This is particularly important in children in special schools such as the Alabama Institute for the Deaf and Blind at Talladega, where a large number have nerve loss, so that any who have potential residual hearing may use it to best advantage.

The essential problem then is to maintain patency of the eustachian tube so that the conduction apparatus of the middle ear can function properly. To achieve this result, radium has been found to be an effective agent. Lymphoid tissue is very sensitive to radiation and its growth can be inhibited by such small doses that no injury to mucous membrane occurs. This fact has been proven by Crowe in the treatment and multiple re-examinations of thousands of children over a period of many years. Radium effectively reduces the size of the lymphoid nodules and can be easily and painlessly employed in very small children.

At the annual meeting of the Medical Association of the State of Alabama in April 1946 the senior author spoke of plans for a special hearing clinic within the Department of Otolaryngology of the Medical College of Alabama at the Jefferson-Hillman Hospitals. Funds were made available, a semi-sound-proof room was donated, a precision audiometer, electric nasopharyngoscope, and radium applicator purchased, secretarial-technical help obtained, and a Fellowship established for the development of this work. All children between the ages of five and fifteen who came to the clinic, regardless of their presenting complaint, were examined with special reference to their auditory

acuity. During the first year of this work, 301 children were examined. Eighty-two were found to have definite conduction deafness, as shown by their audiograms.

DIAGNOSIS

I. HISTORY

The chief complaint in the majority of children seen in the clinic was frequent attacks of acute coryza accompanied by severe sore throat. The outstanding feature in most of the group was the complete lack of knowledge of any existing hearing loss. Only three spoke of a noticeable hearing loss as their chief complaint, and only six gave any past history of hearing impairment. This finding can be expected in those showing a high tone loss, and should emphasize the fact that one cannot rely upon a negative history of hearing loss in children. Inquiry should be made regarding hearing defects in other members of the family as early familial deafness leads one to suspect otosclerosis, a hearing loss which will give the hearing test characteristics of conduction deafness but which will not respond to radiation. (We were handicapped in obtaining a good history in many cases due to the fact that a number of our children were in institutions and were brought to the clinic by social workers who were not familiar with the child's past history.) Wherever possible, questions should be asked concerning serious illnesses, such as poliomyelitis, meningitis, scarlet fever and head injuries, which might have produced damage to the auditory nerve. Definite history should be obtained regarding recurrent earache and drainage from the ears plus a note as to whether a tonsil and adenoid operation has been performed.

II. EXAMINATION

Observation of the tympanic membrane is best done with the electric otoscope. It is very important to determine whether the drum is or is not perforated and to note the degree of retraction. An opaque, thickened and scarred tympanic membrane, associated with the presence of bubbles of mucus in the middle ears, would indicate definite obstruction of the eustachian tubes. A bluish tint to Shrapnell's membrane is also of importance.

The tuning fork test (Rinne) normally reveals air conduction to be approximately twice as long as bone conduction. This test

in most cases of beginning conduction deafness will show good bone conduction with perhaps moderate loss in air conduction. A rare case will show complete reversal of the ratio between air and bone conduction.

Our audiometer tests have been made under conditions short of sound-proofness, although the extraneous noises in the room were dampened by a sound absorbent covering the walls. A quiet room is usually sufficient for accurate testing. The child should not be required to use the red light signal in perception of a sound, since this would require an additional reflex to be learned, but is asked simply to raise the hand or nod the head as the sound is recognized. There is usually no doubt as to the accurate perception of the tones when using this method, but each test should be graded as to estimated accuracy by "good," "fair" or "poor." If the test is low, it should be checked on another day and correlated with the other findings before a diagnosis of conduction deafness is made. To classify the hearing as "definitely low," the graph should show at least a 25 decibel loss of several adjacent tones either at one or the other end of the tone range.

Following the history, otoscopic examination and audiometric study, it is absolutely essential to examine the nasopharynx. This can be done in practically all children by preparing the nose with a little 1% cocaine spray, followed by passing a tiny cotton tipped applicator along the floor of the nose, on which three drops of 5% cocaine has been placed. The electric nasopharyngoscope can then be easily and painlessly passed along the inferior meatuses and a clear view of the nasopharynx obtained. With this instrument in place, one can accurately determine the amount of lymphoid tissue present in the nasopharynx, as well as its exact location. It must be reemphasized that it is the location of the lymphoid tissue in its relation to the eustachian tube orifice and not always the amount of the tissue that is important. There may exist a large midline mass of lymphoid tissue without any obstruction of the tubal orifice, or there may be a clean vault, with large lymphoid nodules directly in the tubal orifice causing complete tubal obstruction. Only by direct observation can this be accurately determined.

TREATMENT

After a diagnosis of conduction deafness, due to occlusion of the eustachian tubes, is made, it must be decided whether to use surgery or radium or both in an effort to correct the hearing loss. In children with large hyperemic tonsils, enlarged cervical lymph glands, and large adenoids which obstruct the eustachian tube orifices, a tonsillectomy and adenoidectomy should be performed. If a very large mass of lymphoid tissue has regrown in the nasopharynx following tonsillectomy and adenoidectomy, the mass should be removed surgically and the surgery followed by irradiation. If the recurrent lymphoid tissue is limited to the area about the orifice of the tube, a secondary operation may produce cicatricial stenosis of the tubal orifice establishing permanent injury. Radium alone is used in these cases.

In removing the lymphoid tissue of the nasopharynx surgically, we have found that the use of the curette is the most satisfactory means of removing the tissue as completely as possible. Following curettage, the nasopharynx is examined with the finger and if any tiny island remains the nasopharynx is then "sandpapered" with a gauze sponge on the palpating finger tip. Great care should be given to the removal of the adenoid tissue surgically as we have seen adenoid tissue regrow at an alarming rate even after the most meticulous adenoidectomy. A large number of our patients have had a considerable regrowth of adenoid tissue within eight months following the original operation.

RESULTS OF TREATMENT

As can be seen in our diagnostic and treatment analysis, only a fraction of the total number of those found to have defective hearing have had a complete course of treatment, but the results in the number treated make it possible to conclude that this type of treatment is highly effective. Many children who have had a profound loss as shown by preoperative audiometric study have had their hearing restored to normal as demonstrated by the audiometer following treatment. All have had a large mass of lymphoid tissue blocking their eustachian tube orifices. The ages of these children have varied from seven to fifteen. Practically every child in the series that has had a complete course of treatments has shown wonderful improve-

ment in his hearing. Those who have not improved need slight additional treatment in the form of roentgen therapy directed toward the middle ear and peripheral portion of the eustachian tube.

Since the beginning of the writing of this paper many new cases have been examined and their treatment instituted. It takes a considerable length of time to complete the treatment due to our lack of bed space in the hospital to take care of all the children who need adenoidectomy prior to radiation. Thus an additional report of this work will have to be made two or three years from now to show the complete results of the first one hundred cases with complete treatment.

DIAGNOSTIC ANALYSIS

1. Number of children examined from August 1946 to August 1947	301
2. Number of audiograms	470
3. Number of children with deafness	89
4. Number of children with conduction deafness due to lymphoid hyperplasia and tubal occlusion	82
a. Low tone deafness	12
b. High tone deafness	17
c. Both high and low tone deafness	51
d. Low but bizarre audiograms, unclassified deafness	2
5. Number with otosclerosis	2
6. Number with bilateral otitis media	1
7. Number with perception (nerve) deafness	4

TREATMENT ANALYSIS

1. Number of children treated	65
2. Number of children with full course of treatment (came to normal with surgery and/or one to three radium applications)	28
3. Number having T. & A. only	34
a. Came to normal	14
b. Improved	5
c. Unimproved	1
d. Had surgery but have not had check-up audiogram	14
4. Had adenoidectomy only, and came to normal	1
5. Had surgery plus radium	28
a. Came to normal	8
b. Improved	15
c. Unimproved	2
d. Have not had check-up audiogram	3
6. Had radium only	2
a. Came to normal	1
b. Unimproved	1

7. Number untreated	15
8. Number needing more treatment	20

CASES

Case No. 1. J. S., female, white, age 7 years. Chief complaint: "Colds and mouth breathing." Past history: Recurrent tonsillitis, occasional earaches; otherwise non-contributory.

Ears: Each tympanic membrane retracted.

Hearing: Definite hearing loss for voice and audiometric scale. BC greater than AC with 512 fork.

Nose: Deflection of septum to the left and mucoid discharge in each inferior meatus.

Tonsils: Enlarged, smooth and hyperemic.

Pharynx: Injected, postnasal discharge noted.

Cervical Glands: Palpably enlarged.

Audiogram: See illustration.

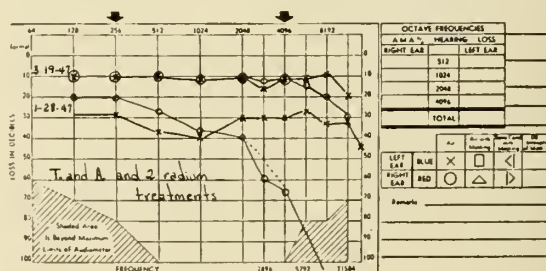


Fig. 1—Patient J. S.

Nasopharynx: Examination with the electric nasopharyngoscope revealed a large mass of lymphoid tissue completely filling the nasopharynx and obstructing the eustachian tube orifices. No pus or polypi noted at the sinus orifices.

Diagnosis: Conduction deafness.

Chronically infected and hyperplastic tonsils and adenoids.

Treatment: Tonsillectomy and adenoidectomy plus two radium treatments.

Case No. 2. L. M., male, white, age 12. Brought to clinic for survey audiogram. No complaints. Past history: T. & A. age 6, otherwise negative.

Ears: Tympanic membranes retracted and scarred.

Hearing: BC greater than AC bilaterally with 512 fork.

Pharynx: Tonsillar fossae clean. Mucopurulent postnasal discharge noted.

Nasopharynx: Examination with the electric nasopharyngoscope revealed huge adenoids cov-

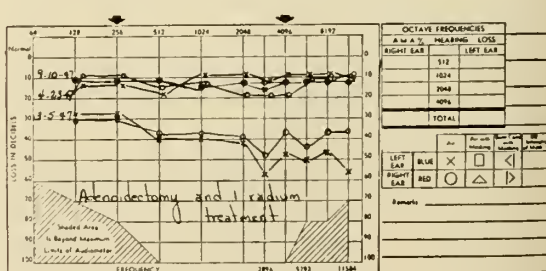


Fig. 2—Patient L. M.

ered with mucoid discharge obscuring eustachian tube orifices.

Audiogram: See illustration.
Diagnosis: Conduction deafness secondary to adenoid regrowth.

Eustachian tube obstruction with resultant secretory otitis.

Treatment: Surgical adenoidectomy followed by radium treatment to nasopharynx resulted in normal hearing.

Case No. 3. C. D., male, white, age 13. No complaints. Survey audiogram. Past history relative to lesions affecting hearing: Negative.

Ears: Each tympanic membrane markedly retracted.

Nose: Septum straight, mucoid discharge each inferior meatus.

Teeth: Good repair.

Tonsils: Smooth, small, hyperemic and adherent.

Pharynx: Postnasal discharge noted.

Nasopharynx: Examination with the electric nasopharyngoscope revealed a large amount of lymphoid tissue covered with discharge obstructing the eustachian tube orifices. No pus or polypi noted at the sinus orifices.

Cervical Glands: Palpably enlarged.

Audiogram: See illustration.

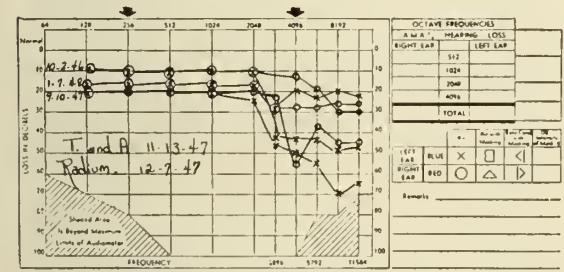


Fig. 3—Patient C. D.

Diagnosis: High tone conduction deafness bilaterally.

Chronic infection of the tonsils and adenoids.

Treatment: Tonsillectomy and adenoidectomy followed by radium treatment.

Case No. 4. E. B., female, white, age 9. Chief complaint: "Fullness and roaring in ears for past eight months. Gradually worse and especially bad for past two days." Past history: Tonsils removed, age 7.

Ears: Each tympanic membrane retracted and opaque.

Audiogram: See illustration.

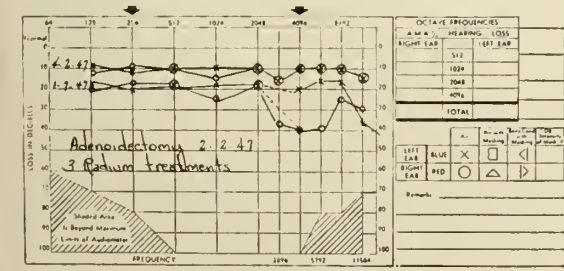


Fig. 4—Patient E. B.

Tonsils: Cleanly removed.

Pharynx: Postnasal discharge noted. Many islands of lymphoid tissue on the posterior and lateral pharyngeal walls.

Nose: Septum straight, mucoid discharge each inferior meatus.

Teeth: Good repair.

Nasopharynx: Examination with the electric nasopharyngoscope revealed huge mass of lymphoid tissue filling the nasopharynx and completely obstructing the eustachian tube orifices. No pus or polypi noted at the sinus orifices.

Diagnosis: Early conduction deafness for high tones bilaterally secondary to adenoid regrowth obstructing the eustachian tubes.

Treatment: Adenoidectomy followed by three radium treatments.

Case No. 5. C. C., male, white, age 14. No complaint, brought in for survey audiogram from Boys' Industrial School. Past history relative to ears: Negative. Had T. & A. as a child.

Ears: Tympanic membranes markedly retracted. Bubbles of mucus in each middle ear.

Nose: Narrow, septum deflected moderately to left.

Tonsils: Cleanly removed.

Pharynx: Hypertrophied lymphoid islands on posterior and lateral pharyngeal walls.

Nasopharynx: Examination with the electric nasopharyngoscope revealed a tremendous mass of lymphoid tissue covering the eustachian tube orifices and extending forward along the floor of the nose.

Hearing: Spoken and whispered voice low. BC greater than AC bilaterally with 512 fork.

Audiogram: See illustration.

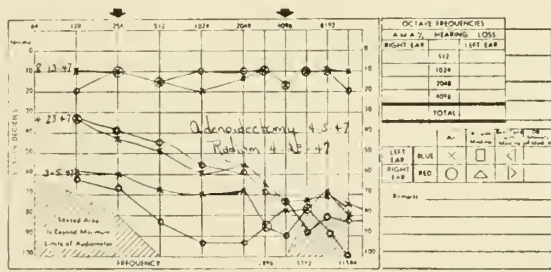


Fig. 5—Patient C. C.

Diagnosis: Conduction deafness secondary to adenoid regrowth with obstruction of eustachian tubes.

Treatment: Adenoidectomy followed by one radium treatment.

Case No. 6. J. B., male, white, age 12. Brought to clinic from Boys' Industrial School for survey audiogram. Past history: Said to be hard of hearing. Had simple mastoidectomy on left at age 3.

Ears: Tympanic membranes intact, markedly retracted and irregular.

Nose: Septum deflected moderately to left.

Tonsils: Large and hyperemic.

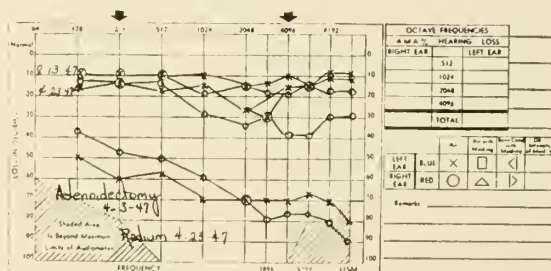
Pharynx: Many large, inflamed lymphoid islands on posterior and lateral pharyngeal walls.

Nasopharynx: Examination with the electric nasopharyngoscope revealed huge adenoids covered with mucoid discharge obstructing the eustachian tube orifices.

Hearing: Conversational voice reduced. BC greater than AC bilaterally, both BC and AC diminished.

Cervical Glands: Markedly enlarged.

Audiogram: See illustration.



HUMAN ANAPHYLAXIS

REPORT OF CASE DUE TO SULFATHIAZOLE SENSITIVITY

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Until recently, opportunity to study anaphylaxis in the human being has been unusual. The advent of antibiotic therapy has provided, for study, pathologic material not available previously. Analysis of the disease processes in this material may throw light upon several maladies heretofore relegated to the class of diseases of unknown origin.

It is desired to review the case herein reported because it exhibits generalized manifestations of anaphylaxis associated with sulfathiazole therapy.

REPORT OF CASE

A deaf-mute, 33-year-old white female, was admitted to the hospital on November 13, 1947 complaining of pain in the right side of her abdomen associated with nausea and vomiting. These symptoms had slowly developed in the last twenty-four to forty-eight hours.

Past history revealed three previous abdominal operative procedures and a spontaneous abortion in 1945. During the second of the operations in 1946, five grams of sulfa crystals were scattered in the abdomen. The third operation, a cesarean section, was done two and one-half weeks prior to the final admission. Indications for operation were fetal pelvic disproportion and phlebotrombosis of the left leg with inflammatory reaction. At operation, many adhesions of the intestinal tract were encountered and of necessity freed. The postoperative course was complicated by the phlebotrombosis of the left leg. She was given 660,000 units of penicillin. The inflammation about the thrombosis subsided by the sixth postoperative day. She was discharged apparently well the tenth postoperative day.

Read before the Alabama Association of Pathologists, Mobile, April 14, 1948.

Appreciation is expressed to South Highlands Infirmary and Dr. Harry Goldner, Birmingham, for permission to study and report this case; and to Drs. J. A. Cunningham and L. C. Posey for helpful suggestions utilized in the preparation of this paper.

Physical examination revealed a tender, palpable mass in the right upper quadrant. The initial temperature was 100.4°; blood pressure 122/74; respiratory rate 20. Cystoscopic examination and pyelograms were negative.

The initial treatment was sulfathiazole gms. 1, every four hours, and penicillin, 30,000 units, every three hours. The sulfathiazole nauseated the patient and caused vomiting. So this drug was discontinued after three doses and the penicillin dosage was increased to 50,000 units.

On the second hospital day, the diagnosis of omental abscess was made and an exploratory laparotomy was performed. An inflamed omental mass, attached to the anterior abdominal wall, cecum and ileum, was resected. The pathological diagnosis was acute and chronic inflammation with areas of necrosis.

After operation, the patient showed no improvement. The temperature remained of the septic type. Postoperatively, penicillin therapy was continued. The fourth hospital day, the patient received 5 gms. of sodium sulfathiazole. The fifth hospital day, she received 3 gms. of sulfathiazole orally. The sixth hospital day, the patient received 5 gms. of sodium sulfathiazole intravenously.

The urine output, in spite of forced oral and intravenous fluids, decreased to 500 cc. the sixth hospital day, and with no urine reported as voided the seventh hospital day (the day of death).

The fifth hospital day, the patient became cyanotic and respirations were fast and labored. During examination, numerous rales were heard throughout both lung fields. Pulse was 150 and blood pressure, 132/60. X-ray films showed mottling of the lung shadows. In spite of all efforts the patient died at 10:45 A. M., November 19, 1947, her seventh hospital day.

Terminally, cyanosis became more pronounced, respirations went up to as high as 58 and 60, pulse ranged around 150, and the

temperature decreased to subnormal. Her blood pressure remained elevated throughout her illness. On the day of death it was recorded as 150/72. During the patient's stay in the hospital, she received 15 gms. of sulfathiazole and 2,290,000 units of penicillin.

At autopsy, there was swelling and slight pitting of the left lower extremity. The skin of the face, and particularly about the eyes, showed a bluish-red, hemorrhagic mottling. The lungs were heavy and subcrepitant. Their reddish purple cut surface exuded much frothy fluid. The liver and spleen were large, and on section their surfaces bulged. The cecum showed remnants of adhesions on its surface.

The kidneys weighed 340 gms. There were occasional hemorrhagic mottlings on the surface of the kidney beneath the capsule. The apices of the pyramids showed radiating, yellowish-white opaque lines and dots. White crystalline deposits, 1 mm. or less in diameter, projected from the tubules. Scattered grainy deposits of crystalline material were present throughout the pelvis. The uterus showed a rather marked involution following cesarean section and pregnancy. A thrombus mass was found in the

left iliac vein extending into the vena cava. It was firmly adherent to the vein wall.

HEART:

The pictures of the heart show, in Figure 1a, an intravascular hyalin-like thrombus mass, around which are seen scattered lymphocytes, plasma cells and eosinophils. There is a suggestive edema of the myocardium. Figure 1b shows perivascular accumulations of cells, lymphocytes, plasma cells and a predominance of eosinophils.

LUNGS:

The lungs showed marked engorgement of intra-alveolar capillaries, hyalin membranes outlined alveoli, and a serous granular coagulum was present within alveoli. These changes were seen generally, together with occasional extravasations of red blood cells and neutrophils. Intravascular thrombus masses were present in the small pulmonary arteries.

PANCREAS:

The picture of the pancreas, Figure 2, shows a heavy interstitial infiltration of cells, principally eosinophils. These cells were sometimes grouped in perivascular areas.

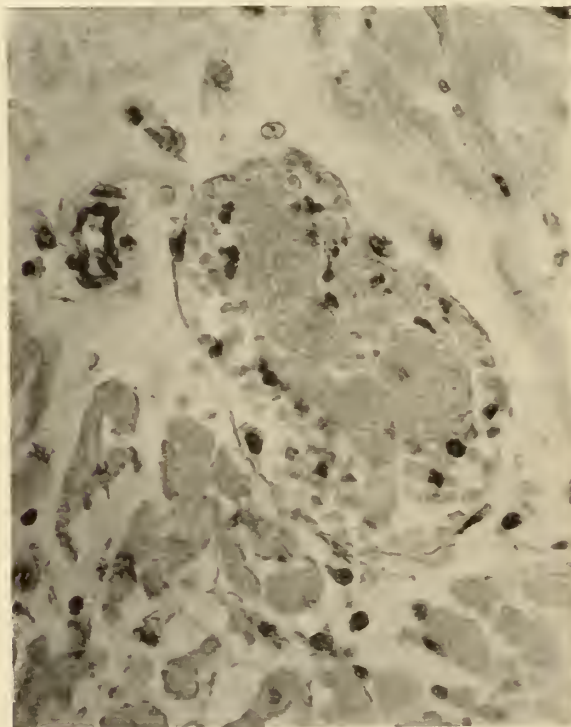


Fig. 1a—Heart: Note intravascular thrombus.

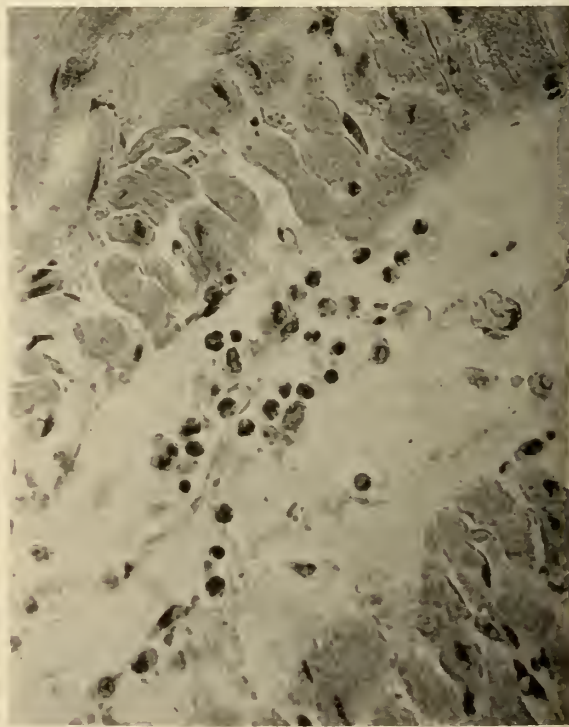


Fig. 1b—Showing perivascular accumulations of cells, predominantly eosinophils.

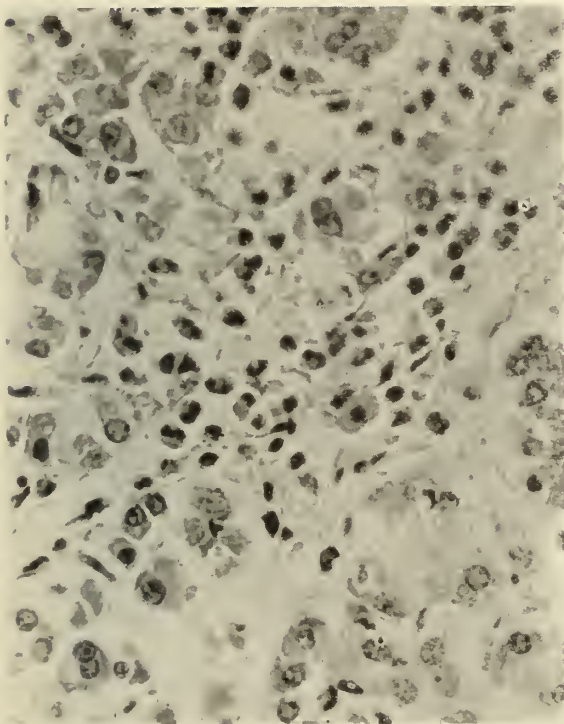


Fig. 2—Pancreas: Showing heavy interstitial infiltration of cells, principally eosinophils.

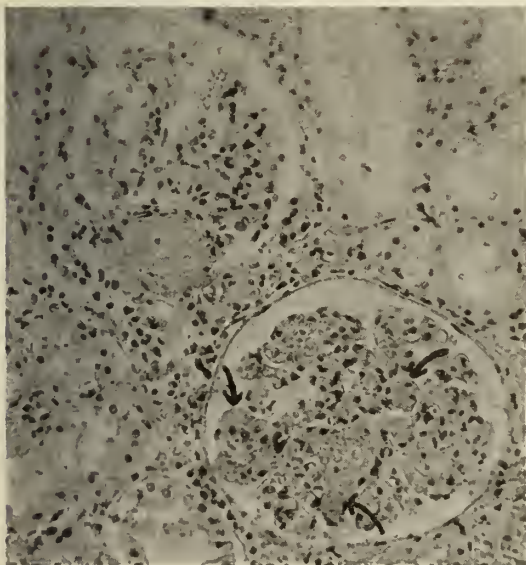


Fig. 3a—Kidney: Thrombus in afferent arteriole, upper glomerulus. Arrows point to hyaline-like thrombi within intraglomerular capillaries, lower glomerulus.

SPLEEN:

The spleen showed fibrinoid degeneration of arterioles, associated with capillary thrombosis of splenic corpuscles.

KIDNEYS:

The kidneys showed a widespread and diffuse edema. Small intravascular thrombus masses were frequently seen. These occurred particularly within intraglomerular capillaries (Figure 3a) and in afferent arterioles (Figures 3a and 3b). Occasional subcapsular hemorrhages were seen (Figure 3b). The collecting tubules were dilated and many of them had shed their epithelial lining.

Periodic acid stains showed in the alveoli of the lung and in the glomeruli and tubules of the kidneys, and intravascularly in all sections a crystalline deposit, we believe to be sulfathiazole.

Other sections showed, in general, similar lesions to those pictured above.

COMMENT

A case of sulphathiazole hypersensitivity has been presented. Apparently the initial sensitization was brought about by introduction of the drug into the abdomen during a sterile surgical procedure.

The lesions produced by the use and abuse of sulfonamide therapy have been extensive-

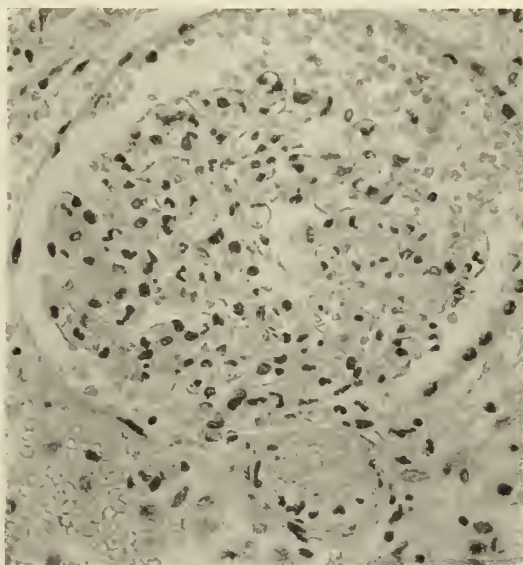


Fig. 3b—Kidney: Note subcapsular hemorrhage and thrombus in afferent arteriole.

ly reported in the literature. The majority of the case reports incriminate the drug sulfathiazole. The use of this drug is injudicious inasmuch as less dangerous and equally therapeutic sulfa drugs may be employed.

Rich,¹ Rich and Gregory,² Black-Schaffer,³ and others have thoroughly correlated the similarities of sulfonamide sensitivity, periarteritis nodosa, serum sickness and experimental anaphylaxis. Leftwich,⁴ reasoning the sulfonamides must be present in the blood stream as a protein conjugate, has

1. Rich, A. R.: Role of Hypersensitivity in Periarteritis Nodosa as Indicated by 7 Cases Developing during Serum Sickness and Sulfonamide Therapy, *Bull. Johns Hopkins Hosp.* 71: 123-140 (Sept.) 1942.

2. Rich and Gregory: Experimental Demonstration that Periarteritis Nodosa Is a Manifestation of Hypersensitivity, *Bull. Johns Hopkins Hosp.* 72: 65-88 (Feb.) 1943.

3. Black-Schaffer, B.: Pathology of Anaphylaxis Due to Sulfa Drugs, *Arch. Path.* 39: 301-314 (May) 1945.

4. Leftwich, W. B.: An Intradermal Test for the Recognition of Hypersensitivity to Sulfonamide Drugs, *Bull. Johns Hopkins Hosp.* 74: 26-48 (Jan.) 1944.

demonstrated positive intradermal skin tests which prove the allergic and hypersensitive nature of the reactions.

The lesions found in this case compare favorably with those reported in the literature. The essential lesions presented are generalized small vessel, intravascular thrombosis with perivascular cuffing of cells, particularly eosinophils, plasma cells and lymphocytes, associated with mild degenerative changes in small arteries. The petechial mottling, generalized finely diffuse edema and degenerative change seen in various organs, are sequelae of the vascular lesions. Though this case does not show the necrotizing arteritis so frequently mentioned in other reports, it is probable that the intensity of the reaction caused death by pulmonary edema and uremia before the more advanced necrotizing lesions could be produced.

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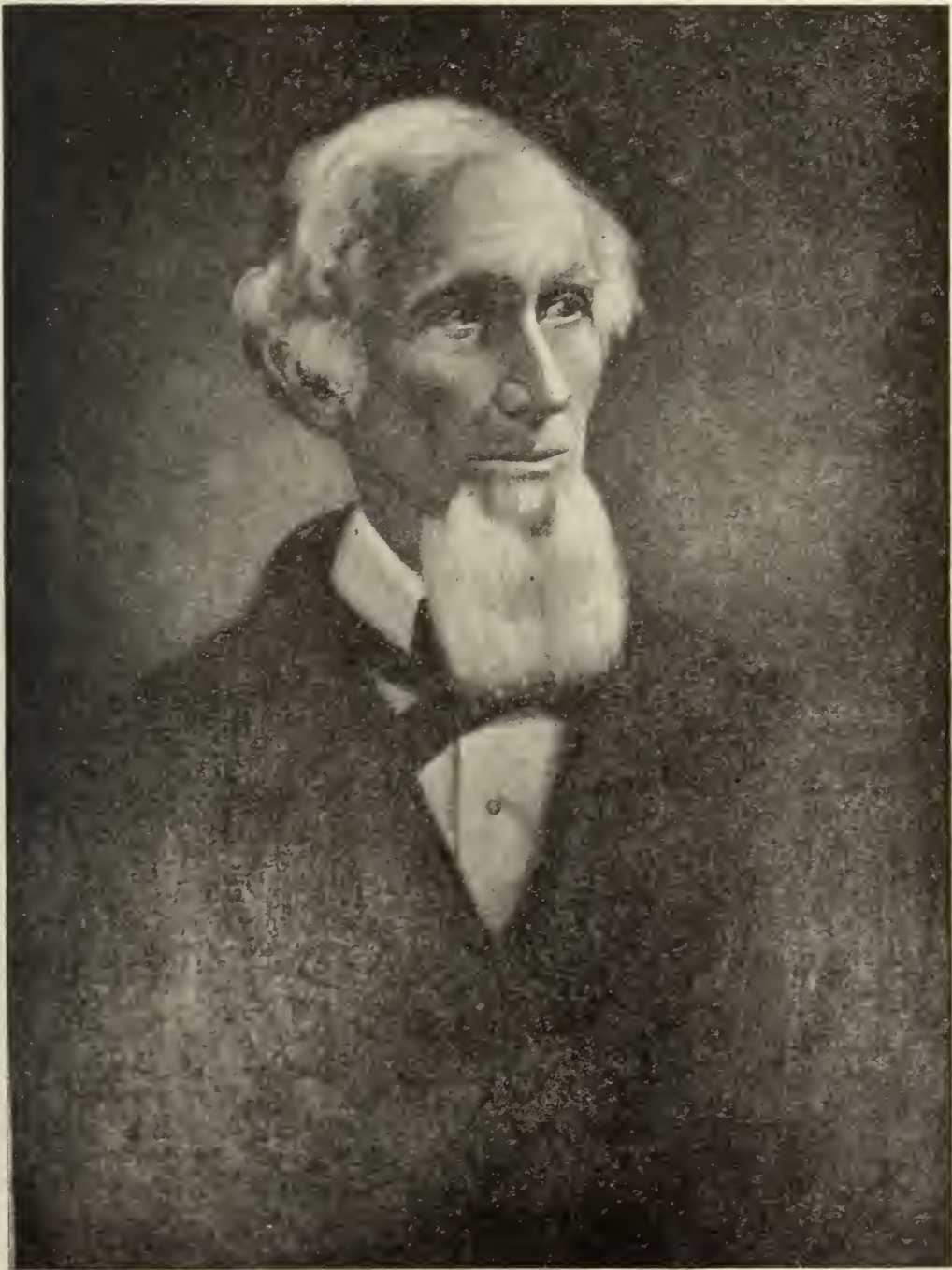
The founder of the Medical College of Alabama, Josiah Clark Nott, was born on March 31, 1804 at Columbia, South Carolina. His father, Hon. Abraham Nott, was a Judge of the Court of Appeals and was elected to the United States Congress in 1800. The maiden name of Josiah's mother was Mitchell. Dr. Josiah Clark Nott had three sisters and four brothers and at least three of Josiah's brothers became well known: (1) Professor Henry Junius Nott was a writer, a brilliant man, who, at the age of 40, perished in the disastrous wreck of the steamship "Home" in 1837 when returning from New York, whither he had been sent to make additions to the University of South Carolina Library. (2) Dr. Gustavus Adolphus Nott, M. D., was Professor of Anatomy at the Medical College of Louisiana from 1840 to 1841 and Professor of Materia Medica and Therapeutics from 1848 to 1867, serving also as Dean from 1849 to 1852. And (3) Dr. James E. Nott, M. D. practiced medicine in Mobile.

Read at the Centennial Session of the Medical Association of the State of Alabama, Birmingham, April 15, 1947.

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Josiah attended South Carolina College and after graduating in 1824 he began the study of medicine in the office of Dr. James Davis of Columbia. In the winter of 1825-26, he attended the first course of lectures at the College of Physicians and Surgeons, New York City, where he came under the influence of Dr. Valentine Mott. A second course of lectures was taken at the University of Pennsylvania from which he graduated with the M. D. degree in 1827. He was an intern at the Philadelphia Alms House (Old Blockley) from September 1827 to September 1828. The next year was spent as a demonstrator of anatomy under Professors Physick and Horner at the University of Pennsylvania.

In 1829 Dr. Josiah Clark Nott returned to his home town, Columbia, South Carolina to practice medicine and, after six years of practice, he went to Europe to improve his medical training. Much of the next year was spent in Paris, but he visited hospitals in several of the European countries and found time to study natural history and the related sciences.



Josiah Clark Nott

On returning from Europe, in May 1836, he settled in Mobile, Alabama, where he soon rose to the head of the profession in Alabama, and enjoyed a large and lucrative practice. Being a thorough anatomist, and having a great predilection for surgery, his reputation as a surgeon was soon established and especially so in the southern states. As a surgeon, he had no rival in the southeast, except Warren Stone of New Orleans, and they were intimate friends throughout a long professional life, each recognizing and acknowledging the talents and worth of the other. Doctor Nott performed successfully all of the capital operations in surgery; originating some, improving the adopted procedure of others, and performing all with dexterity, boldness and astonishing self-reliance.

In 1848, Dr. Nott, Dr. George A. Ketchum, and others established a private infirmary for Negro patients. It was known as Dr. J. C. Nott's Infirmary and continued to function until after the War Between the States.

Dr. Nott was a regular contributor to the medical literature from 1831 when he published his first work, an essay on leeches, which he appended to his translation of Goupil's book, *An Exposition of the Principles of the New Medical Doctrine*. Some sixty-eight papers which were written by Dr. Nott have been discovered and a list of these references is appended to this biographical sketch. Since Nott had a rather broad training we might have expected him to have had many interests in the practice of medicine and the variety of titles of his papers seems to bear out this concept. His published works include treatises on lithotomy, operation for cataract, endometritis, intra-uterine medication, bone and nerve surgery, several instruments which he devised, yellow fever, case reports and ethnology. From the above list of titles, it would seem that Dr. Nott was what we might consider as a general practitioner with a tendency to specialize in surgery and gynecology. He even practiced obstetrics and no doubt one of his most famous deliveries was that of William Crawford Gorgas, on October 3, 1854 at Toulminville, near Mobile. William Crawford was the first child of Josiah and Amelia Gayle Gorgas. It is of especial interest to note that it was William Crawford Gorgas, a member of the Yellow Fever

Commission to Cuba, who played no small part in the eradication of the mosquitoes which transmitted yellow fever. Because of Gorgas' persistence and sanitation methods, it was possible for the United States to build the Panama Canal. The above accomplishments are of particular interest since it was Josiah Clark Nott who has been given credit for being the first to suggest that insects could transmit yellow fever. Nott's new hypothesis was presented in a paper which appeared in the January 1848 issue of *The Charleston Medical Journal and Review* and also in the March 1848 issue of the *New Orleans Medical and Surgical Journal*. Nott presented his hypothesis after reviewing the peculiar features which characterized the transmission of yellow fever and expressed the opinion that its communicability could be best explained as due to insect transmission. He made the observation that the night-time was especially dangerous in an infected region. The reason, Dr. Nott intimated, was that insects were especially active at night.

Packard had this to say concerning Nott's insect hypothesis: "Unfortunately, this may be regarded as one of those 'guesses at the truth' which have so often preceded great discoveries." However, T. A. Cooke, in 1853, had this to say about Nott's hypothesis: "The animalcular origin of this disease is with marked ability presented and supported by Dr. Nott, in which doctrine I would willingly acquiesce, if its distinguished advocate would admit as invariable the foreign origin of the animalculae. I have long been inclined to the opinion that the time is fast approaching when most febrile diseases will be attributed, and justly, to a similar cause—to an animalcular origin."

Several years before Nott reported on yellow fever, he had operated on and extirpated the os coccygis for neuralgia. Skene attributes to Nott the credit for first describing the condition of coccydynia. However, Nott's paper aroused practically no interest and the condition was not generally known until described and named by Sir James Y. Simpson, seventeen years later in 1861.

Although Dr. Nott was a leading surgeon, he found time to write numerous ethnological treatises. His best known works in this branch of science were (1) *The Connection between the Biblical and the Physical His-*

tory of Man, 1849, (2) Physical History of the Jewish Race, 1850, (3) Indigenous Races of the Earth, 1857 and (4) Types of Mankind, which was so popular that ten editions appeared by 1871. The last two works were written in collaboration with George R. Gliddon. These last two books were the first important American contributions to the science of ethnology and held a high place among anthropologists. Many of these authors' views have been rejected but there is little doubt that they were epoch-making contributions. Darwin's *Descent of Man* appeared in 1871 and this kind of evolution was familiar to Nott but he differed as to the starting point, for his *Types of Mankind* was really based upon separate centers of anthropoid creation.

The Editor of the New Orleans Medical and Surgical Journal, in commenting upon the receipt of the 1852 Proceedings of the Medical Association of the State of Alabama, had the following to say about the medical profession in Alabama: "All honor to Alabama! She has neither a medical college nor a medical journal, but her students are educated in the best schools of the country and her physicians enrich the pages of the medical journals of both North and South." These comments were not only appropriate for Dr. Nott but also for his contemporary practitioners in Alabama, that great group of physicians and surgeons which included J. Marion Sims, W. O. Baldwin, N. Bozeman, W. H. Anderson, W. M. Boling, A. Lopez, R. F. Michel, S. D. Seelye, and J. S. Weatherly; the first two having been honored with the Presidency of the American Medical Association and the last six with the Vice-Presidency of the same organization.

It was chiefly through Nott's influence and activities that the first charter of incorporation of the "Medical College of Alabama" was obtained from the General Assembly of the State in 1856. The State Legislature failed to provide funds to carry out the provisions of this charter so it was allowed to expire by its own limitation.

In 1857, twenty-one years after settling in Mobile, Dr. Nott accepted a call to the chair of anatomy in the University of Louisiana (since 1884, The Tulane School of Medicine). His stay in New Orleans was for only one year and he returned to Mobile to resume the practice of surgery and medicine. Fully

convinced as he had been of the many advantages that would result from the existence of a good medical school in Alabama, and especially in Mobile, his experiences and observations while teaching in New Orleans served but to emphasize and confirm him in his original purpose. So, in 1858, Dr. Nott and several friends made plans to establish a medical college in Mobile. The citizens of the city were interested and subscribed about seventy-five thousand dollars for the purchase of a museum and chemical apparatus. The Medical College was organized and Dr. Nott was appointed to the chair of surgery and commissioned to go to Europe during the summer of 1859 to collect a library and the necessary physiological and anatomical preparations for the museum. While in Europe on the above mission, Dr. Nott sent a letter from Paris to the Editor of the Mobile Register on July 15th, 1859 and another letter from London to the Editor of the New Orleans Medical and Surgical Journal on September 27, 1859. These letters explain in some detail in what cities and from which artists Dr. Nott purchased museum pieces for the different departments.

The Medical College of Alabama, under a charter granted by the Probate Court of Mobile County, was opened in a rented building on Monday, November 14, 1859. Since the appointments were not suited for medical instruction, Dr. Josiah C. Nott decided to go before the State Legislature for aid. And in 1860, the General Assembly of the State granted another charter and this time also appropriated fifty thousand dollars to erect a medical building. The Medical College was closed after two sessions due to the War Between the States. In a letter to the Editor of the Mobile Weekly Advertiser, which was published on September 3, 1865, Dr. Nott requested him to announce that the Medical College would not open that winter. In explanation, he stated that the institution had been taken over by Freedman's Bureau and appropriated to the purpose of a Negro school soon after the United States troops had taken possession of the town. The Chemistry Department was still occupied by a Negro cobbler and a great number of the most beautiful and costly models and anatomical preparations had been taken off by those in possession. The Medical College was not opened again until 1868, when

twenty-two students reported for study. That Dr. Nott continued his interest in the Medical College of Alabama, even though he had moved from Mobile, is indicated by the following quotation which was taken from the catalogues of the Medical College for the sessions 1871-72 and 1872-73: "As usual in past years, valuable prizes will be awarded to meritorious students. The Nott Medal, valued at one hundred dollars, will be given to the first graduate."

The Official Records of the Union and Confederate Armies, War of the Rebellion, contains two references to Dr. Josiah C. Nott. The first of these was in a letter from Corinth, Mississippi on April 30, 1862 and the second was in a letter from Tupelo, Mississippi on July 17, 1862. Surgeon Nott was a medical inspector in General Braxton Bragg's Second Corps, Army of Mississippi and was connected with the military service during the whole period of the war.

After the war was over, Dr. Nott returned to Mobile to resume his practice but, due to the long summers, he decided to move to Baltimore in 1867. In his new location, he had sufficient leisure to specialize in the surgical portion of gynecology and after he had mastered it sufficiently he moved to New York City in April 1868. Here he was received by the first members of the profession with open arms and through his industry and skill, and the good-will of his professional brethren, he acquired a large practice in his newly adopted field of surgery.

The Mobile Medical Society was organized on June 12, 1841 in the office of Drs. Fearn and J. C. Nott. Dr. G. A. Nott, brother of Josiah, was one of the thirteen physicians in the new organization. Dr. Josiah Nott read a set of nine resolutions concerning the proposed society. Apparently, Dr. Josiah Nott did not take an active interest in either the State Medical Association or the American Medical Association but he was elected an honorary member of the former organization, on March 4, 1868 at the organization meeting. However, Dr. Nott took an active interest in the New York Obstetrical Society and served as Vice-President and President of the organization.

In 1832, Dr. Nott was married to Sarah Chestnut Deas, native of Camden, Alabama and daughter of Col. James S. Deas, of South

Carolina. To this union, eight children were born, and four of them died within six days during the yellow fever epidemic of 1853. Two sons were lost in the war: (1) Captain J. Deas Nott was killed on September 25, 1863 while leading a charge at the battle of Chickamauga and (2) Lt. Henry Junius Nott, M. D., who had received the A. B. degree from South Carolina College in 1857, died at Shiloh on May 8, 1862 on the battle field from exposure and fatigue. One child died in early childhood while the family was on a visit to Europe and only one son, J. C. Nott, Jr., survived his father. Mrs. Josiah Clark Nott returned to her New York home after Dr. Nott's death and died there on April 17, 1883.

A sketch of this type is not complete without mention of Dr. Nott's personal appearance, health, habits and religious character. He was tall and thin, over six feet in height and weighed about one hundred and forty pounds. His statue was erect. His head was large and his forehead was high and his face was strongly marked and noble in expression. His health was never robust, but his habits were so plain and simple that he was enabled to do a vast amount of work without becoming exhausted. During some seven or eight epidemics of yellow fever in Mobile, he was riding day and night for two months at a time and yet preserved his health and spirits.

In social life, Doctor Nott's personal charm influenced every circle that he entered. Most of the distinguished strangers who visited Mobile were entertained in his home. His natural disposition was gay and lively, and he always had a large fund of appropriate anecdotes suited to the circumstances of the occasion. However, his chief relaxation was at his home in the midst of his family.

Dr. Nott was not a member of any Christian denomination but he was very far from being an irreligious man. He, however, believed that the New Testament was written under inspiration. His ideas on religion were confused and he was never disposed to argue about it; but he had the highest respect for all who conscientiously believed in the Christian Faith, and at the same time practiced what they believed.

Dr. Nott's stay in New York was for only a few years since the northern winters were too severe for him. His lungs, always weak,

became involved and he was satisfied that he would soon fall victim to consumption if he did not change his residence. In the early fall of 1872, he moved to Aiken, South Carolina but, not improving as he had hoped, moved on to Mobile in December of the same year. From the day of his arrival to that of his death, the brief period was one continued ovation for him. His friends rallied around him whenever he was able to receive them. The most beautiful flowers, the choicest fruits, the daintiest dishes, and the rarest game of the season were sent in profusion to him and he was often heard to say that "No man ever had such warm affectionate friends." Surrounded by such friends as these and ministered to by the tender care of his wife, he expired peacefully on the sixty-ninth anniversary of his birthday, the 31st of March, 1873.

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PEDIATRIC CASE REPORTS

Edited by

AMOS C. GIPSON, M. D.
Gadsden, Alabama

MANAGEMENT OF DIABETIC COMA IN CHILDREN

CASE PRESENTED BY BENJAMIN P. CLARK, M. D.

J. H., aged 11 years, weight 58 pounds, was referred by the family physician because the child was "run down" and he had found sugar in the child's urine. The child was first seen at 10:15 P. M., at which time he was semi-comatose, showed the usual signs and symptoms of diabetic coma and had an acute otitis media, right. The chart below shows the treatment given during the next twenty four hours:

Date	Hour	Urinalysis			Regular Insulin Units	Fluids
		Sugar	Acetone	Diact.		
8/16	Mid-night	4+	4+	4+	55	1000 cc. lactate Ringer's IV
	1:15 A. M.	4+	4+	4+	25	Frequent sips of ice cold 10% sodium bicarbonate sol.
	2:30 A. M.	3+	4+	4+		
	3:30 A. M.	3+	3+	Pos.	25	
	4:30 A. M.	3+	3+	Pos.	25	
	7:45 A. M.	Tr.	3+	Pos.		500 cc. 1/6 molar lactate IV
	Noon	Neg.	4+	Neg.		500 cc. lactate Ringer's IV
	6:00 P. M.	Neg.	4+	Neg.		500 lactate Ringer's IV
8/17	6:45 A. M.	4+	3+	Neg.		
	Noon	1+	3+	Neg.		Diet started
	6:00 P. M.	Neg.	Tr.	Neg.		

The incidence of diabetic coma in the juvenile diabetic population is relatively great. The intercurrent of infection, omission of insulin or a dietary "binge" is the inciting cause. A deficiency in the storage of glycogen in the child, as contrasted to the adult, contributes to increased incidence of coma in this age group.

The onset of coma in the child is often more rapid than in the adult. The warning signs and symptoms are malaise, increasing weakness, intense thirst, pains in the legs, abdomen and back, nausea, vomiting, air hunger and drowsiness. On examination, the pulse is rapid, the respiration Kussmaul in type, the blood pressure low, the heart sounds are weak, the abdomen may be rigid,

diffusely tender and spastic, the eyeballs are soft, and the odor of acetone prevails.

The alkali reserve may be lowered to twenty volumes percent, and the blood sugar and the nonprotein nitrogen will be elevated. The white count is often increased to extremely high values. The urine not only contains sugar, acetone and diacetic acid but albumin and showers of granular casts.

The treatment of coma in the child is an *acute medical emergency* and is directed at the dehydration and acidosis, the diabetes itself and the gastric dilatation, which is often an accompanying factor. The dose of insulin varies with the age and weight of the child and with the blood sugar level. In a child from five to fifteen years of age with a blood sugar of less than 500 mg., from 100 to 150 units given over a six hour period in hourly doses are usually sufficient. Intravenous administration is often of value.

Fluids are of great importance. If the acidosis is extreme, 1/6 molar lactate solution may be given intravenously, initially followed by lactate Ringer's solution or saline. Five hundred (500) to 5,000 cc. of these solutions may be necessary to relieve the acidosis, dehydration and electrolyte loss.

Repeated gastric lavage and enemas are advisable in severe cases to relieve the gastrointestinal stasis. Sodium bicarbonate solution is often left in the stomach. Blood transfusion and the use of stimulants, such as caffeine, ephedrine and epinephrine, may be indicated in cases with circulatory collapse.

The prognosis for recovery from diabetic coma in children is 100%, except for patients moribund at the beginning of treatment.

The appearance of tubercle bacilli in sputum, gastric contents or other body fluids is an extremely significant episode in the course of tuberculous infection. Hence a thorough and systematic search for tubercle bacilli must be instituted in all cases where the presence of tuberculosis is suspected or where tuberculosis must be considered a possibility in differential diagnosis.—*Francis J. Weber, M. D., Pub. Health Rep., Sept. 3, 1948.*

Vaccination with BCG must not be regarded as a substitute for approved public health measures nor can the vaccination of the general population be recommended at the present time except for carefully controlled investigative programs, several of which are now under way.—*Nat. Tuberc. A. Bull., March 1948.*

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ASSESSMENT TO PROVIDE EDUCATIONAL PROGRAM

At the recent St. Louis interim session of the American Medical Association, the House of Delegates unanimously voted to assess each member of the Association \$25. The fund thus provided will be used for a nationwide plan of education on the progress of American medicine, the importance of the conservation of health and the advantages of the American system in securing a wide distribution of a high quality of medical care. The assessment will come to the members through the State Medical Association and the several County Medical Societies.

Progress in American medicine is an achievement which we, as doctors, are proud to relate to the general public.

Yet, for some time now, many stories reaching lay readers have dealt with isolated cases of distress, indicting the medical profession, along with articles based on glib promises of social planners.

During the ensuing year, the medical profession must concentrate its efforts on one problem: to tell the American people about the many contributions which the medical profession has made to alleviate disease, preserve life and postpone death. Our story must stress the importance of our present

system of voluntary care and present the true facts about medical care and health protection.

The House of Delegates of the American Medical Association, at the Interim Session in St. Louis, November 30-December 3, 1948, fully recognized these problems by creating a means for carrying on a nationwide health education program. To finance this program an assessment of \$25 was made on each member of the American Medical Association. Members of the American Medical Association do not pay dues. If they desire to become Fellows of the Scientific Assembly they make application and pay \$12 a year dues, which include a subscription to The Journal. This hardly pays for the paper and printing; notwithstanding the fact that the doctor receives the best medical periodical published anywhere in the world.

In 1947, the expenses of the Association exceeded income. For that reason dues of Fellows were raised from \$8 to \$12. However, even higher costs have kept apace with this raise and the Association may show a net loss for 1948.

The medical profession as a whole is of the firm opinion that government control of medicine would lower the standards of medical care in the United States, and is so sincere in this belief that it feels everything possible should be done to prevent such control from being thrust upon us.

A coordinating committee has been formed to help solve many of the problems which we face, and it is enlisting the support of every physician. This committee is composed of Dr. E. L. Henderson, chairman, Dr. Edward S. Hamilton, Dr. Gunnar Gundersen, Dr. Walter B. Martin, Dr. Louis H. Bauer, Dr. John W. Cline, Dr. William Bates, Dr. R. B. Robins, Dr. R. L. Sensenich, and Dr. George F. Lull.

A CALL TO ACTION AGAINST NATIONALIZATION OF MEDICINE

(J. A. M. A., December 11, 1948)

One of the most fundamental actions taken by the House of Delegates of the American Medical Association at the Interim Session, St. Louis, November 30-December 3, 1948, was the decision to assess every member of the Association \$25 in order to provide a fund adequate for meeting the proposal of the present administration and particularly

of the present Federal Security Administrator to nationalize the services of the medical profession through the enactment of a compulsory sickness insurance act covering every person in the United States.

Almost since the day of Mr. Truman's election Mr. Ewing has been engaging in a one man campaign in behalf of this legislation, speaking on the radio, granting interviews to the press, issuing announcements from his office and attempting to break down public confidence in the medical profession by every possible technic. In this activity he has leaned heavily on his brochure "The Nation's Health," which purports to be related in some manner to the National Health Assembly but which represents a perversion of the data there offered and which bears not the slightest resemblance to the official record of the conclusions of the various sections of the National Health Assembly.

Mr. Ewing has leaned largely on two statements which also bear but little or no resemblance to scientifically established fact. He has asserted that some 300,000 lives could be saved if only his proposals were made the law of the land, and he has said again and again that some 70,000,000 persons, or approximately one half the population of the United States, are without proper medical care. The 300,000 persons who he alleges die "needlessly" each year include 40,000 deaths from accidents. The National Safety Council would, no doubt, be interested to know exactly how Mr. Ewing would prevent those deaths. In 1945, 170,000 persons died from communicable diseases, and Mr. Ewing assures us that 120,000 of the persons need not have died. Actually the death rates from communicable diseases in the United States are the lowest in our history, and, in 1947, when the total number of deaths was higher than in 1945, only 137,000 deaths were deaths from communicable diseases. Since there is no evidence that any considerable number of these persons died without medical attention, one wonders as to just how Mr. Ewing would propose to save these lives through the enactment of compulsory sickness insurance.

The statement that 70,000,000 persons are without proper medical care simply because 70,000,000 persons happen to have incomes found by statisticians to be less than \$3,000

per family per year is another statement without the slightest support in factual evidence. If 70,000,000 Americans were without proper medical care, there would be the kind of public revolt that occurs when one half of a nation's population becomes hungry or happens to be without food or shelter, which are among the necessities of life. Actually the farm population, which is a large portion of those included among these 70,000,000 persons, has relatively low cash income but has also for the most part access to good medical care.

The argument of Mr. Ewing is based wholly on income figures, and Mr. Ewing chooses to disregard entirely a technical term used by economists, namely priorities. Since one out of every four persons in the United States has a motor car, one out of two a radio, and since our people find funds available for such substances as liquors and tobacco in amounts almost as great as the total bill for medical care, one cannot but refer to the priorities and to the lack of suitable education which makes people choose to spend their money for such items rather than for the securing of medical care. Already throughout most of this nation organizations and facilities are available for insurance at exceedingly low rates against the costs of hospitalization and the costs of surgery, obstetrics or other medical care. The people have begun to learn and are insuring themselves increasingly against these costs, but Mr. Ewing suggests that they be forced to pay for their medical care by deductions from their wages or other income rather than voluntarily choosing to protect themselves against the costs of illness as free Americans have chosen since the democracy was established.

The House of Delegates at its meeting just held in St. Louis adopted for the American Medical Association a policy in relation to compulsory sickness insurance which states in unequivocal terms the point of view of the medical profession toward Mr. Ewing's proposals:

"The American Medical Association reaffirms its belief in the application of the principle of medical care insurance on a voluntary basis. The American Medical Association has encouraged and assisted the development of voluntary prepayment plans. Coverage is now provided throughout the

country, and protection is being extended rapidly to an ever increasing proportion of our population.

"The great accomplishments of American medicine are the result of development by a free profession working under a free system, unhampered by Government control.

"The experience of all countries where Government has seized control of medical care has been progressive deterioration of the standards of that care to the serious detriment of the sick and needy.

"The American medical profession is unalterably opposed to the institution of any system of medical care which would result in damage to the American public. Our carefully considered opinion is that any scheme of political medicine would be a catastrophe for the American people.

"Compulsory sickness insurance, notwithstanding misleading bureaucratic propaganda, is a variety of socialized medicine or state medicine and possesses the evils inherent in any politically controlled system. It is contrary to American tradition and is the first and most dangerous step in the direction of complete state socialism. The American Medical Association rejects any such scheme as a method of the distribution of medical care; we are equally certain that when the people understand the facts, they also will reject it with the same finality.

"On the basis of experience, we are convinced that voluntary medical care insurance, with the continued support of the American medical profession, can and will solve the economic problem of the distribution of medical care within the existing framework of private enterprise.

"It has been demonstrated that the voluntary method provides a better and less costly service and avoids the imposition of enormous taxation.

"The continuing purpose and determination of the American Medical Association is to maintain and improve the standards of medical care and to make that care available to all our people."

Mr. Ewing in his radio talks and in his interviews has chosen to insult, berate, deride and ridicule the great medical profession of this country. The physicians of the United States may well stand before the people of our country on their record of service to the people. Again and again Mr.

Ewing has referred to the fact that the lives of 140,000,000 persons are more important than the wishes of 180,000 physicians. Let the people know that medical care comes from the medical profession and that no compulsory sickness insurance plan or other form of nationalization of medical service can succeed without placing on that medical profession the total burden of service. Mr. Ewing would do well to confer with leaders of the medical profession as to the path that medicine should take in this country rather than relying on the kind of arguments that win cases before juries for great corporations or for criminals.

LOEFFLER'S SYNDROME

"Since the report of Loeffler in 1932 of 37 cases of transient pulmonary infiltrations associated with an eosinophilic response of the leukocytes, some 200 similar cases have been reported from various parts of the world. The symptom complex called Loeffler's syndrome is characterized by a mild illness, slightly or non-productive cough, which is, nevertheless, annoying, a metallic taste, and asthmatic breathing (at times). Physical examination of the chest reveals few or no abnormal features. Roentgenography of the chest discloses areas of increased density which have been described as homogeneous, nodular, cystic, extensive and irregular, and small infiltrations resembling secondary tuberculosis. The shadows are migratory and may clear and recur in the same or other sites. Their disappearance may be complete or they may leave fine star-shaped or strand-like shadows. Pleural effusion may occur rarely. The blood cell count usually shows a moderate leukocytosis with eosinophilia amounting to 10 to 80 per cent. The sedimentation rate is moderately accelerated. Examination of the scant sputum reveals a large number of eosinophiles. The course of the illness is at times mild, the illness apparently subsiding spontaneously after a few days. At other times, the course is more protracted and the symptoms disappear only after recognition of the etiologic agent and treatment directed toward it.

"Loeffler himself suggested the probability of multiple causative agents of the disease and interpreted the pulmonary changes as a reaction by the lungs to some toxin.

Since that time, cases have been reported associated with pollination of the privet plant, ascariasis, trichinosis, brucellosis, amebiasis, hookworm disease, strongyloidosis, coccidioidomycosis, and cases believed to represent allergy to bacteria. Tropical eosinophilia reported on recently by Weingarten, appears to present characteristics very similar to those of Loeffler's syndrome. It is the consensus of opinion at the present time that the manifestations of the disorder are an expression of an allergic response to an invasive agent, notably parasitic."

Thus does Hendon¹ begin his short but excellent consideration of this new and not-well-known entity. The Louisville investigator reviews the literature and reports an additional case of his own. Hendon states that there is only a small amount of information available as to tissue changes because the disorder is apparently very seldom fatal. And we are further told that "the treatment of Loeffler's pneumonitis has been varied. Many cases clear up spontaneously after one or two weeks; in others, detection and removal of the exciting allergin has been followed by permanent remission. Some cases have been protracted and have apparently 'worn themselves out.' Weingarten reported the apparently specific effect of arsenicals on tropical eosinophilia and Miller used Mapharsen with good effect in one patient with Loeffler's syndrome."

Apparently we are just beginning to explore this disorder and obviously but little is known of it as yet. But, for some years, there have been more and more references to it in the medical literature as cases have cropped up here and there and have been correctly diagnosed. Quite possibly it is more widespread than was formerly thought and, therefore, the profession should bear in mind the possibility of encountering a patient with Loeffler's syndrome.

MATERNAL MORTALITY HOSPITAL SURVEY IN ALABAMA

The Committee on Maternal and Child Health of the Medical Association of the State of Alabama has mailed study forms to each hospital in Alabama reporting births for 1945-47. This Committee is trying to

1. Hendon, James Robert: Infiltration of the Lungs With Eosinophilia (Loeffler's Syndrome), *Am. Pract.* 11: 592 (May) 1948.

leave no stone unturned in its efforts to evaluate and correct causes for maternal mortality in our state. Most study forms have been returned completed. The Committee requests the cooperation of those Alabama hospitals that have not returned the questionnaire.

1948 GENERAL PRACTITIONER AWARD AMERICAN MEDICAL ASSOCIATION

The 1948 Gold Medal of the American Medical Association "for exceptional service by a general practitioner" was awarded by the House of Delegates of the American Medical Association at its interim session at St. Louis, Nov. 30-Dec. 3, to Dr. W. L. (Buck) Pressly of Due West, South Carolina, this being the second award given to a general practitioner by the American Medical Association and to be awarded in the future each year. Any state within the American Medical Association may officially present a name to the Board of Trustees of the American Medical Association, and the Board reviews all of those nominations and presents from that group three for the consideration of their House of Delegates. There were twenty-three nominations this year and from this number the Board of Trustees presented to their House of Delegates the names of Dr. W. L. Pressly of Due West, South Carolina, Dr. Lyle Hare of Spearfish, South Dakota, and Dr. Charles M. Horton of Franklin, Louisiana. Dr. F. L. Chenault of Decatur was Alabama's nominee.

Dr. Pressly is a former Chairman of the Section on General Practice of the Southern Medical Association (its second Chairman), is now and has been for several years a member of the Council of the Southern Medical Association from South Carolina, representing that state on the Council, and is now a member of the Executive Committee of the Council. He has been a member of the Southern Medical Association since 1916, twenty-two years.

Dr. Pressly was born in Due West sixty-one years ago, received his academic education there and his medical degree at Emory University School of Medicine at Atlanta. He has practiced at Due West thirty-two years. He was given the honorary degree of Doctor of Laws by his alma mater, Erskine College at Due West in October of this year for his "great humanitarian work." He

has been President of his county, district, and state medical associations, and since 1939 a member of the South Carolina State Board of Health and is a member of its Executive Committee. He was state chairman of the Procurement and Assignment Division of Selective Service of South Carolina in World War II.

POST-CLINICAL TOUR TO MEXICO

The New Orleans Graduate Medical Assembly is sponsoring an interesting post-clinical tour to Mexico, planned to follow the 1949 Assembly meeting. On Saturday, March 12, a party composed of doctors and their wives will leave by Pan American Clipper for Mexico City and headquarters will be at the new and beautiful Hotel Del Prado.

A medical program has been arranged for the group in Mexico City and the itinerary includes visits to Cuernavaca, Taxco, Puebla, Fortin, Oaxaca, Orizaba and other points too numerous to mention.

Departure from New Orleans will be on Saturday, March 12, and the group will return on Sunday, March 27.

Details and a complete itinerary are available at the office of the Assembly, Room 105, 1430 Tulane Avenue, New Orleans 12, Louisiana.

DIHYDROSTREPTOMYCIN

Dihydrostreptomycin, a derivative of streptomycin, has definite advantages over the original drug in the treatment of tuberculosis, according to writers of six papers in the November 1948 issue of the American Review of Tuberculosis, official publication of the American Trudeau Society, medical section of the National Tuberculosis Association.

The studies reported, which include the first to be published on the clinical use of the derivative, were conducted at New York-Cornell Medical Center, New York City; the Mayo Clinic, Rochester, Minn.; the Squibb Institute for Medical Research, New Brunswick, N. J., and the Merck Institute for Therapeutic Research, Rahway, N. J., according to an announcement made today by Dr. Walsh McDermott, managing editor of the Review.

Dr. McDermott explained that dihydrostreptomycin was developed in industrial

laboratories by the addition of a small amount of hydrogen to streptomycin, the antibacterial agent which has proved of greater value in tuberculosis treatment than any other known drug.

The first results observed on use of the drug in tuberculosis treatment are reported in papers by Dr. H. Corwin Hinshaw of Mayo, president of the American Trudeau Society, and Dr. Lawrence B. Hobson of New York-Cornell Medical Center.

Both investigators conclude that the derivative seems to be as effective as streptomycin and has an advantage over the parent drug in that it can be tolerated longer by the patient before toxic manifestations become apparent. This is considered a definite advantage because one of the limiting factors in the use of streptomycin is the fact the drug has a toxic effect on the nervous system of the patient, causing dizziness and sometimes temporary deafness.

The Cornell and Mayo investigators emphasize, however, that, although dihydrostreptomycin represents a considerable improvement in this regard, administration of the new derivative in sufficiently large doses may produce the same type of damage to the nervous system as streptomycin does.

The other major drawback to the large-scale use of streptomycin—the fact that strains of tubercle bacilli (the germs which cause tuberculosis) resistant to the drug eventually become predominant—is not overcome by the derivative. The investigators writing in the Review have found that tubercle bacilli resistant to the original drug are also resistant to the derivative, and vice versa.

Reporting on 14 patients treated with dihydrostreptomycin at Mayo, Dr. Hinshaw states that, although the number of patients treated is small, the results have been sufficiently uniform “to indicate that dihydrostreptomycin possesses certain advantages over streptomycin for the treatment of tuberculosis.” But he warns that “all of the possible toxic potentialities of dihydrostreptomycin” may not have been revealed as yet.

“Sufficient evidence has been accumulated,” writes Dr. Hinshaw, “to indicate that dihydrostreptomycin is an effective drug for the treatment of some types of clinical tuberculosis. Its activity is probably similar

to that of streptomycin but it is much less toxic than streptomycin when given in comparable doses for similar periods."

Dr. Hobson, reporting on 12 patients treated with dihydrostreptomycin, reaches conclusions similar to those of Dr. Hinshaw.

"Dihydrostreptomycin," states Dr. Hobson, "should prove to be useful in the treatment of patients unable to tolerate streptomycin because of hypersensitivity. The lower neurotoxicity of the dihydro derivative also suggests that it is preferable to streptomycin for the treatment of patients who require large doses or long courses of the antibacterial agent."

Careful studies of the effect of the new compound in tuberculosis in animals are discussed in papers the Review is carrying by Dr. William H. Feldman of the Mayo Clinic and by Dr. Geoffrey Rake of the Squibb Institute, while the pharmacological properties of the drug are discussed in articles by Dr. Hobson, Mrs. A. O. Edison of the Merck Institute, and Dr. Louis Levin of Mayo.

ARMY DOCTORS PLAN STUDY OF MELANOMA

The Army Medical Department will soon point its research guns at another disease that has long been an enigma to the medical world, Major General Raymond W. Bliss, the Surgeon General of the Army, announced recently. Malignant melanoma is not a common disease; but because early diagnosis has seldom been possible, and because successful treatment (other than early surgery) has never been found, the Army has decided to make an intensive study of some 400 autopsy and surgical specimens. Having collected this material over a number of years, the Army Institute of Pathology is now preparing thousands of slides for an exhaustive study that may continue five or six years. Pathologists and dermatologists of the Army Medical Department hope that findings will bring a complete histological understanding of the disease, its manner of growth, and criteria for recognition of malignant melanoma in an early stage before it has had time to pump death into the blood stream.

Malignant melanoma originates from an apparently harmless black mole and kills with lightning speed. A mole that has been

inconspicuous for years may suddenly grow larger and become deeper in color. This may happen after the nevus has been irritated or bruised through contact with a tight collar, a belt, or a shoe. It is true that every mole that becomes irritated does not cause malignant melanoma; but the danger is sufficiently great that a well known dermatologist has said, "Anyone who permits a mole to become inflamed takes part in his self-destruction." Through an inexplicable change in its cellular structure, the small nevus becomes malignant; and unless the entire area is removed immediately by surgery, it may add one more death to the number of people who have died from melanoma. Two to four years is the maximum time that one can expect to live after the malignancy has set in.

Melanoma is one of many problems on which Army pathologists, dermatologists, and allied scientists are at work. Of value to civilians as well as to the Armed Forces is a project recently completed by the Army Industrial Hygiene Laboratory, in cooperation with officers and employees of the Philadelphia Quartermaster Depot. Patch tests have been made on 300 civilian employees who volunteered to cooperate in this research to find out which types of clothing and equipment do, or do not, cause irritation of the skin. Clothes and fabrics were the materials tested. Lt. Col. B. D. Holland of the Army Medical Corps reports that a wealth of interesting data has been found and that results will soon be made known.

Other projects under way are studies in radiation injury; carcinoma of the lip; deficiency diseases having dermatological manifestations; atabrine dermatitis, and altitude frostbite.

To cover the Army's broad field of dermatology, 27 additional specialists are needed in the Army Medical Department: 7 dermatologists who are Board Members and 20 who have completed formal dermatology residencies of two to three years duration. Information regarding these openings may be obtained by writing The Surgeon General of the Army, Washington 25, D. C.

ANNUAL MEETING OF THE ASSOCIATION
MONTGOMERY
APRIL 19-21, 1949

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

THE MEANS VS. THE END

W. A. Dozier, Jr.
Director of Public Relations

A very common fallacy in so many arguments is the assumption that the end justifies the means. And conversely it is often argued that the means justify the end. The present proponents of national compulsory health insurance seem to be tacitly assuming both means and end, and from this assumption they go forward to state that they have the answer.

The first of these unjustifiable assumptions is perhaps greatest, that is that the end justifies the means. The greatest amount of their arguments are purely statements of what the end results will be, and never is there any mention of the dangers carried by the means. For example, look at the type of insurance proposed—national *compulsory* health insurance. This obligatory action is hardly commensurate with underlying policies of our form of government. More is it a tactic followed by socialistic states, and even more is it the type of action used by dictators and those adherents to dictatorial policies. Health insurance, yes; but not a compulsory one!

Now it is sure to be argued that any form of taxation is compulsory, and this is true. But normal taxation such as we know it is not obligatory in the same manner as this proposed insurance. Income tax, for example, does not require any one profession to take clients and to take them at a fee set by a governmental body. Instead, income tax laws merely say anyone who makes a certain sum of money must pay a percentage to the government. This example has been used because it is perhaps the most cursed of all taxes at present. But even so, this income tax does not single out a profession and make unwanted and unworkable demands upon that one group.

No less important is the matter of a third person—in this case the governmental body—intervening between the doctor and the patient. Free choice is assured both doctor

and patient. This cannot be. Let us assume for a minute that the original choice by both doctor and patient could be worked out satisfactorily. (This is not an admission that it could, for no one has proved that as yet.) What would happen when the patient decided to change from Doctor X to Doctor Y? This happens every day right now, and the patient is free to do as he pleases. However, such could not be the case under any system where the rules came from Washington. The last sentence tells the story. A system would be necessary, and a system cannot allow free movement by the individual. It did not in Germany under Hitler, and it could not here.

Now look for a moment at the other fallacy in the thoughts of those who approve of the compulsory plan. It is assumed from the beginning that state medicine will cure all the ills of our present type of practice and that such governmentally dictated medicine will be good for the people of America and therefore good for the country.

The arguments seem to follow this line of reasoning. There are faults in our present medical practice which result in some people's failing to get adequate care. Then it is assumed that national compulsory health insurance will alleviate all these present faults. This adequate care spoken of above seems to mean complete and all inclusive medical attention from a scratched finger to a broken pelvic bone.

The fact that there are faults in our present system is admitted by the medical profession, and work is afoot to try to remedy these faults. However, the profession cannot and has not accepted the assumption that state medicine is the answer. It is not. Such a national plan of medicine would bring ills far greater than we have today.

Perhaps the greatest ill that would come is the lowering of our present standard of medical care. Look again at those countries that have such a governmentally controlled system. Then look at the people of America. We in this country are, despite opposing

arguments without proper backing, the healthiest nation on earth. How can anyone assume that taking a system of a less healthy country will be the panacea for us?

This discussion is not all inclusive and has not set out to be so. The purpose is to give a slight summary of how matters stand and to point up an indicated line of action necessary under these circumstances. Neither is it possible here and now to give answers. However, the important thing is to realize that action is necessary.

In medical circles there is much talk of "cleaning house" and there is a great cry of

"I'm against." The time for talk is past, and constructive action must be taken toward alleviating the faults which are recognized by the profession. No longer is it possible to say "I am against that" and leave it there. If you oppose this measure, what of a constructive nature do you propose to take its place? A counter-proposal is now necessary. Let us not make the error of assuming either the means or the end. Instead, give an acid test to each point of the plan to be sure that no idealistic day-dreaming has crept into the thought behind it all.

WOMAN'S AUXILIARY

Mrs. G. G. Woodruff, Anniston, President

MESSAGE FROM THE PRESIDENT

We appreciate very much the courtesy of the Journal of the Medical Association of the State of Alabama in allowing the Auxiliary unlimited space so that it may keep the doctors of Alabama informed as to the Auxiliary's activities and projects.

As stated in the A. M. A. handbook for state auxiliaries, the objects are as follows:

1. To extend the aims of the medical profession to all organizations which look to the advancement of health and health education;
2. To cultivate friendly relations and promote mutual understanding among physicians' families;
3. To participate in any endeavor on the request of the American Medical Association;
4. To coordinate and advise concerning the activities of constituent auxiliaries; and
5. To assist in the entertainment at all conventions of the American Medical Association.

Those of us who have been members of a county auxiliary have enjoyed very much the contacts we have made with other doctors' wives. Along with the social part of the organization we feel, by virtue of our position as doctors' wives, we have an opportunity to be of service along the line of public relations. In our auxiliary meetings we are having programs concerning health

projects that have been approved by the State and American Medical Associations. We are studying and informing ourselves on health bills that will come before Congress; also the counterpart to socialized medicine, that is, voluntary health insurance. We realize we have many opportunities to bring correct information to the laity through personal contact, P. T. A., church organizations and clubs. Some of the auxiliaries are giving scholarships to nurses, and in various ways are trying to encourage fine young girls who are graduating from high schools to enter the nursing profession, since we realize there is an acute shortage of nurses. We are stressing the circulation of the magazine, *Hygeia*. As you can imagine, each auxiliary has its own projects. These are just a few of the things the women, as members of the Auxiliary, are trying to do.

Until November 11, 1948, we had twelve organized auxiliaries in the State. Now we have thirteen. Mrs. W. J. Rosser, the President-Elect, met with the Walker County doctors' wives and helped them organize an auxiliary. Mrs. William Ivy is their new president. We are so proud of our new organization. How I wish we might have more auxiliaries over the State. If any doctor's wife would like to be a member-at-large, we would be so happy if she would join, sending her name and \$1.50 to the Treasurer, Mrs. J. R. Chandler, 830 S. 14th Street, Bessemer, Alabama. With the exception of vot-

ing she will have the same privileges as those who are in the auxiliaries, as stated in the State Constitution, Article 1, Section 3.

On September 30 an executive board meeting was held at my home, "Camwood." Thirty-three ladies from over the State were here, each giving a report of her committee and auxiliary. After lunch was served, Mr. W. A. Dozier gave a splendid talk on public relations, his topic being "Service." He is keeping in touch with the auxiliaries over the State and encouraging the work in the field of public relations.

I believe this hits the high spots in the Woman's Auxiliary to the Medical Association of the State of Alabama since the election of officers at the annual meeting in Mobile. We are anxious that "Service" be our slogan for the year.

THE MONTGOMERY UNIT

On February 27, 1948 a lovely luncheon was given the doctors' wives of Montgomery by Mr. A. J. Price at the Blue Moon Inn for the purpose of reorganizing the Woman's Auxiliary to the Montgomery County Medical Society. The last meeting of the Auxiliary was held in November 1934, and after fourteen years of inactivity it was realized that there was much useful work that could be done by the organization. At this meeting the officers elected to carry on the work of the Auxiliary for the year were: Mrs. Fred D. Reynolds, President, Mrs. C. A. Willis, Vice-President, Mrs. D. S. Hagood, Treasurer, Mrs. H. C. Collins, Auditor and Mrs. J. S. Hough, Historian. The committee chairmen appointed by the president were: Mrs. A. E. Thomas, Public Relations, Mrs. B. W. Cobbs, Program, Mrs. H. W. Waters, Hygeia, Mrs. H. P. Dawson, Press and Publicity, Mrs. W. L. Smith, Legislation and Mrs. J. A. Martin, Membership.

The objects of the Auxiliary are: To extend the aims of the medical profession to all organizations which look to the advancement of health and to health education. To cultivate friendly relations and promote mutual understanding among physicians' families. To participate in any endeavor on the request of the State and American Medical Associations. To coordinate and advise concerning activities of constituent auxiliaries. To assist in entertainment at all

conventions of the State Medical Association.

In October Dr. W. W. Bolton from the Speakers' Bureau of the American Medical Association was guest speaker. He was introduced by Dr. D. G. Gill, State Health Officer, and the topic of his address was "The Place of the Physician's Wife in Health Education."

In November the speaker was Miss Catherine Corley, President of the Alabama Nurses Association, who gave an excellent review of Esther Lucile Brown's book "Nursing for the Future." Dr. Brown is the Director of the Department of Studies in the Professions of Russell Sage Foundation and has quite a reputation as an author, having had six earlier books published by the Foundation.

The Auxiliary does not plan a meeting in December but looks forward to a very interesting program on January 28, 1949, when Mrs. G. G. Woodruff, President of the Woman's Auxiliary to the State Medical Association will be guest speaker. With plans for the medical convention being held in Montgomery in April, Mrs. Woodruff should have a wealth of plans for the annual meeting of the Auxiliary to be held at the same time.

Other coming events for the Auxiliary are talks by the following: In February, Mr. W. A. Dozier, Director of Public Relations, in March, Dr. F. T. Jung from the Speakers' Bureau of the American Medical Association, and in April, Dr. Olin Kirkland, D. D. S., of the National Committee of Dentists.

Outstanding persons who have been and will be guests of the Auxiliary at their luncheon meetings throughout the year are: Dr. John A. Martin, President of the Montgomery County Medical Society, Dr. D. G. Gill, State Health Officer, Dr. Douglas L. Cannon, Secretary of the Medical Association of the State of Alabama, Mrs. Walter Bragg Smith, Executive Secretary to the Alabama State Nurses Association, and Dr. Francis Thigpen, President-Elect of the Montgomery County Medical Society.

In connection with Research and Romance of Medicine, papers are being presented each month on the following doctors of olden days who have given much to the advancement

of medicine: Dr. J. C. Nott, Dr. William C. Gorgas, Dr. John A. Wyeth, Dr. Jerome Cochran, Dr. J. Marion Sims and Dr. L. L. Hill.

The Auxiliary has, as a project for the year, the development of a scholarship fund for a young lady in Montgomery County desiring to make nursing her profession. It has, to date, a little over a hundred dollars in this fund, and has raised this amount through sales of Hygeia, The Health Maga-

zine. It has been its purpose to place Hygeia in the office of every doctor and dentist in Montgomery. This, it believes, would be a wonderful undertaking in that the magazine published by the A. M. A. is most worthwhile in every detail, and it is the one thing the A. M. A. has asked the Auxiliaries throughout the country to promote.

The Montgomery Auxiliary has 89 members.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

D. G. Gill, M. D.
State Health Officer

THE COMMON COLD

The bad-cold season is upon us again. The months just ahead will undoubtedly bring a great increase in the prevalence of this disease. Your chances of contracting it will be many times greater than they were last summer. You therefore need to be especially careful about exposing yourself to infection.

The common cold takes top rank among all communicable diseases known to man. It is not only the most widely prevalent. It is also the most infectious. If the more dangerous forms of illness were equally infectious, it is entirely likely that the human race would have been wiped out long ago. At the best, it would have found it impossible to increase as it has done.

Exactly how many people have colds within a given period, there is no way of knowing. We are equally ignorant as to how many colds the average person has during a given period. There are several explanations for this lack of knowledge, of course. For one thing, the common cold is not one of the 28 communicable diseases which are reported every week to the Division of Epidemiology of the State Department of Health. In the second place, even if it were, those reported would represent only a small and undependable fraction of those actually occurring, for the reporting of communicable diseases is done by physicians. That means that only those cases that are serious enough to require physicians' care are re-

ported; and only a relatively few colds are as serious as that. So, while it is a great thing that this disease does not make many people very sick, its relatively unserious nature prevents it from being included among the reportable diseases and would prevent it from being satisfactorily reported, if it were.

We can, however, estimate its prevalence. So can others. Among those others who have done so is the Metropolitan Life Insurance Company. It not only has arrived at some reasonable-sounding answers to these questions but it has also assembled an impressive body of facts and figures on the dollars-and-cents costs of the common cold, as well as other eye-opening information about this form of illness which too many of us are too prone to take too lightly.

The fruits of that large organization's studies are condensed into an article published in its *Statistical Bulletin*. The anonymous author of that article wrote:

"There is general agreement among investigators in this field that the average person suffers at least two colds in the course of a year. This means that in the general population of the country there are probably not far from 300,000,000 colds annually. The duration of a simple cold averages about five days. Thus, multiplying the number of colds by their duration, one finds that the people of the United States each year suffer about 1,500,000,000 days of discomfort and reduced efficiency, if not of actual disability, from this cause."

And what of the economic loss imposed by this robber of time and efficiency? That anonymous author went on:

"Although wage-earners often endure colds without staying away from work, the common cold is nevertheless responsible for more lost

time in industry than is any other single cause of disability. Various studies indicate that from 40 to 50 per cent of all days lost from work are attributable to colds and their complications. It has been conservatively estimated that the toll of the common cold in this country is at least one working day per employee per annum. If that is so, there must be more than 60,000,000 days lost to industry this year because of colds. Even at an average daily wage of \$7, the loss in wages totals more than \$420,000,000.

"The cost of drugs and medical care must also be added. Accurate statistics on this subject are not available, so that it is necessary to resort to speculative estimates. On the assumption that every family in the United States spends on an average of \$10 a year for drugs and medical care in the treatment of colds, the total amount spent for these items would be in the neighborhood of \$400,000,000."

The *Statistical Bulletin* author concluded:

"Another factor which enters into the accounting is the cost to employers resulting from lost production and disrupted routine. This item is extremely difficult to estimate, and no attempt is made here to give even approximate figures. It is certain, however, that the annual cost of colds to employers is very considerable for the country as a whole.

"On the basis of the figures cited above, it is thus estimated that the cost of the common cold to the American people is well over a billion dollars a year. Although the common cold is generally considered a minor infection, any disease that runs to such astronomical figures in cost must be rated high in the list of enemies of the public health."

Others too have expressed themselves on the health and economic aspects of this all-too-common ailment, some largely repeating what the *Statistical Bulletin* author had to say and others differing from him somewhat. But all are in complete agreement that it is a top-drawer problem in individual and public health.

"The odds are exactly even you will suffer two colds every year," said Leo Guild. "The odds are also even that each cold will last nine days."

Said Jules Renard: "A cold in the head makes more suffering than an idea." This observation comes from Dr. J. J. Walsh: "It is sometimes as dangerous to be run into by a microbe as by a trolley car." The wise Dr. Samuel Johnson lamented: "I am at this moment deaf in the ears, hoarse in the throat, red in the nose, green in the gills, damp in the eyes, twitchy in the joints and fractious in temper from a most intolerable and oppressive cold."

For a long time the medical profession and research workers have been trying to find a

direct and effective means of cutting down the number of cold victims. They have been hoping to find some method of either protecting us from infection or providing rapid recovery after infection, or both. One or both of these means of approach have been found for wholesale attacks upon diphtheria, typhoid, rabies, syphilis, gonorrhea, smallpox, whooping cough, pneumonia, tetanus, tularemia and undulant fever. Why not the common cold?

Some progress has been made. From time to time experiments have turned out favorably in both the preventive and curative fields. There is good, sound reason to believe that researchers are on the right track. The future holds bright promise. The realistic fact remains, however, that no dependable protection has yet been provided in either the preventive or the curative field.

Stymied as they are in their effort to give us a quick, easy and effective preventive or cure for our most ever-present disease enemy, our medical leaders have, nevertheless, learned much about it. Perhaps the most important bit of knowledge they have gained is that having to do with its mode of transmission. It has been known for a long time, for example, that the infectious agent is not a bacterium but a virus. That discovery was made two decades ago—in 1928—by Dr. A. Raymond Dochez, of Columbia University. He collected washings from the throats of cold victims and then passed them through an extremely fine filter. Then he administered them to chimpanzees. Had the infective agents been as large as germs, these animals would not have contracted colds. For those filters were fine enough to stop anything as big as that. But they did get colds. So Dr. Dochez had proof that his theory was correct: Something much smaller than a germ, or bacterium, is what causes the common cold. His discovery has been readily accepted by his professional brothers.

About five years later—in 1933—another demonstration was given of the common cold's communicable nature. Dr. T. B. Paul and Dr. H. L. Freeze gave that demonstration in experiments at Spitsbergen. The subjects of those experiments were miners.

According to a theory that had many adherents prior to that time, sudden changes in temperature and other environmental

conditions play the determining part in one's chances of developing a cold. To test this theory, Dr. Paul and Dr. Freeze sought out this locality. The miners lived in steaming, overheated buildings and had to go through extremely cold and generally disagreeable weather on their way to and from work. If bad weather conditions could keep a whole community coughing and sneezing, then the people of Spitzbergen would be doing that continuously. But they didn't. Instead, they showed a surprising immunity to coughs and colds. That is, they did so until a ship would arrive and unload crew members or passengers with colds. Then there would be a veritable cold epidemic. This proved, to the satisfaction of those two experimenters and many others, that you cannot get a cold without becoming infected with the cold virus.

This does not mean that environmental conditions and general health do not play a part, an important part, in the prevalence of colds. Those who are in good general health have much stronger resistance to the invading germs when they attack. Fatigue, overwork, loss of sleep, malnutrition and other such factors have much to do with whether a particular exposure to cold viruses will bring on a cold. But, to repeat, infection must take place in either case.

Thus you and the rest of us have a joint means of defense against colds: (1) keeping the resistance at the highest level possible; (2) avoiding exposure to infection.

We need to keep healthy all the time. But we especially need to do so during the bad-cold season. We should get plenty of sleep. We need to get as much rest as we can when we are not asleep. We should try not to overwork. We should see that elimination is regular. We should eat plenty of good, nourishing food. We should keep ourselves as free from other illnesses as we can.

Small droplets "loaded" with the viruses of this disease are sprayed into the air whenever a cold victim coughs or sneezes without placing a handkerchief or gauze over his face. Almost instantly they are broadcast over a distance of some 12 feet. Anyone entering that area at such a time is likely to breathe them into his lungs. Unless his resistance is high, he gets a bad cold. Even if a person does not enter that infected area immediately, he is not safe, for cold viruses

may float gently to the ground, pavement or floor and lie there until a shoe or something else disturbs them. Then they are again thrown into the air and may be breathed, as capable of causing a cold as ever.

It is also possible to get a cold from using china and silverware which has not been washed in boiling water after being used by someone with a cold. Cold germs likewise can be transferred by unwashed or improperly washed hands.

Fortunately, the common cold almost never kills. But it can lay the groundwork for more serious diseases that do kill. Even when it does not do that, it can rob you and your employer of valuable time and can make you feel terrible. So let us take this all-too-common illness more seriously.

BUREAU OF SANITATION

Arthur N. Beck, M. S. in S. E., Director

TYPHUS FEVER CONTROL IN ALABAMA A CONTINUOUS OPERATION

Contributed by

G. R. Wright, B. S. and M. S.
Prin. San. and Pub. Health Eng.

December 31, 1948 marked the close of the fourth year of a continuous, intensive typhus control program in Alabama. Through the combined efforts of federal, state and county health department personnel and the development of private industry to include effective methods of rat extermination, practically all of the southeastern part of the state or the recognized typhus area has been serviced repeatedly, thereby influencing the reduction of typhus to a minimum. In addition, various services have been in operation in the remainder of the state which have served to prevent the spread of this dread disease. Scientific developments, including the most applicable rodenticides, red squill, rodine, arsenic water, Antu and sodium fluoroacetate (Compound 1080) have been used with excellent results. Hydrocyanic acid gas has been used for gassing burrows. Another fairly recent chemical discovery, DDT (dichloro-diphenyl-trichloroethane), has been used to eliminate the fleas and thereby provide a means of eliminating the transmitting agent of typhus fever from rat to man. During this period a steady decrease has been observed in the number of

reported cases each year, finally reaching the lowest since 1931.

Houston County, with a rating of the fifth highest county in the nation for the period 1940 to 1944 inclusive, has shown a reduction from 146 reported cases in 1944 to only one case in 1948. Jefferson County had four cases in 1947 as compared to 92 cases in 1945. Dale County had 47 cases in 1944, but no cases were reported in 1948. Mobile reported 151 cases in 1944 and only 11 in 1948. The record for the entire state of Alabama shows 890 cases in 1944, 604 in 1945, 443 in 1946, 187 in 1947 and approximately 170 in 1948.

Records show that, at least twice before, endemic typhus fever has been brought under control on a large scale only to have the budget reduced to an amount impossible for effective operation, with a consequent rise and spread over the entire state. Since the federal allocation has been assured for 1948-1949 and the local participants concerned have evidenced a desire for a continuation of the program, we are not concerned primarily with the immediate future but wish to give consideration to the methods which might be applied in maintaining typhus control.

In the typhus area our efforts must be continued along the present plan of operation. Towns and villages should conduct DDT dusting and rat extermination projects twice each year. Rural homes should be treated by trained personnel with DDT powder and rodine poison bait and arsenic water furnished to the occupant for further extermination.

In many other areas of the state where typhus fever has occurred from time to time similar extermination measures should be employed.

Garbage collection and disposal should be studied and the most applicable method inaugurated.

The use of private exterminators should not be neglected, especially in the larger cities and particularly in food handling establishments.

Rat proofing of all new buildings, both urban and rural, will prove to be economical and valuable assistance in the elimination of rats.

BUREAU OF LABORATORIES

H. P. Sawyer, M. D., Director

SPECIMENS EXAMINED

OCTOBER 1948

Examinations for diphtheria bacilli and Vincent's	1,138
Agglutination tests (typhoid, Brill's and undulant fever)	911
Typhoid cultures (blood, feces and urine)	413
Examinations for malaria	425
Examinations for intestinal parasites	2,591
Serologic tests for syphilis (blood and spinal fluid)	25,067
Darkfield examinations	23
Examinations for gonococci	2,525
Examinations for tubercle bacilli	2,432
Examinations for meningococci	1
Examinations for Negri bodies (microscopic)	85
Water examinations	1,467
Milk and dairy products examinations	3,335
Miscellaneous	208
Total	41,036

BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

1948

	Sept.	Oct.	E. E.* Oct.
Typhoid	7	5	11
Typhus	17	15	44
Malaria	24	21	492
Smallpox	0	0	0
Measles	22	70	12
Scarlet fever	37	131	115
Whooping cough	29	27	65
Diphtheria	60	201	144
Influenza	20	56	89
Mumps	26	33	25
Poliomyelitis	49	33	9
Encephalitis	2	0	1
Chickenpox	3	13	10
Tetanus	6	4	3
Tuberculosis	314	255	222
Pellagra	3	0	4
Meningitis	4	5	10
Pneumonia	59	102	115
Syphilis	1396	1226	1381
Chancroid	12	14	19
Gonorrhea	467	562	599
Tularemia	1	0	0
Undulant fever	9	2	7
Amebic dysentery	3	0	1
Cancer	295	359	0
Rabies—Human cases	0	0	0
Positive animal heads	21	25	0

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

Malaria, smallpox, tuberculosis, venereal disease, diphtheria, many others, could all be got rid of—from the whole world—without any further knowledge or research, if we had mental health and social health in the people of the world, if enough people in enough places could think in factual terms and had good mental health. Nothing keeps the diseases alive except ignorance and shortsighted self-interest. Long-sightedness would get rid of those things quickly. —Brock Chisholm, M. D., *Mental Hygiene*, July 1948.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS FOR SEPTEMBER 1948, AND COMPARATIVE RATES

Live Births, Stillbirths, and Deaths by Cause	Number Registered During Sept. 1948			Rate* (Annual Basis)		
	Total	White	Colored	1948	1947	1946
Total live births	8493	**	**	34.1	31.0	30.3
Total stillbirths	114	**	**	13.2	27.6	28.9
Deaths (exclusive of stillbirths)	2005	1180	825	8.0	7.8	7.3
Infant deaths:						
under one year	261	148	113	30.3	31.3	36.0
under one month	183	113	70	21.5	24.5	27.2
Cause of Death						
Typhoid and paratyphoid fever 1, 2	1	1		0.4		0.4
Cerebrospinal meningitis 6	6	2	4	2.4	0.8	
Whooping cough 9	5	4	1	2.0	1.6	1.6
Diphtheria 10	5	3	2	2.0	1.2	1.2
Tuberculosis, all forms 13-22	67	29	38	26.9	34.1	34.2
Malaria 28	4		4	1.6	0.4	2.0
Syphilis 30	19	5	14	7.6	7.2	6.1
Influenza 33	7	5	2	2.8	2.4	2.0
Measles 35					0.4	
Poliomyelitis 36	3	2	1	1.2	0.4	2.4
Encephalitis 37	1	1		0.4		
Typhus fever 39	5	3	2	2.0	0.8	2.4
Cancer, all forms 45-55	220	147	73	88.2	71.8	70.9
Rheumatic fever 58	2	1	1	0.8	***	***
Diabetes mellitus 61	31	21	10	12.4	8.8	10.9
Pellagra 69	2	2		0.8	2.4	2.8
Alcoholism 77	1		1	0.4	0.8	1.6
Intracranial lesions 83	199	115	84	79.8	77.4	67.7
Other diseases of nervous system						
80-82, 84-89	21	13	8	8.4	***	***
Diseases of the heart						
90-95	489	326	163	196.1	175.6	140.2
Diseases of the arteries 96-99	18	9	9	7.2	12.4	11.8
Other diseases of the circulatory system						
100-103	7	3	4	2.8	***	***
Bronchitis 106	5	4	1	2.0	1.6	1.2
Pneumonia, all forms 107-109	59	33	26	23.7	20.4	28.8
Diarrhea and enteritis, under 2 years 119	26	15	11	10.4	2.8	1.2
Diarrhea and enteritis, 2 years and over 120	3	1	2	1.2	2.4	1.2
Appendicitis 121	7	3	4	2.8	3.2	6.1
Hernia and intestinal obstruction 122	18	13	5	7.2	9.2	6.9
Cirrhosis of the liver 124	12	10	2	4.8	6.8	6.1
Nephritis, all forms 130-132	129	74	55	51.7	57.7	53.5
Other diseases of the genito-urinary system 133-139	22	8	14	8.8	***	***
Diseases of pregnancy and childbirth 140-150	15	2	13	17.4	29.0	19.5
Puerperal septicemia 140, 142a, 147	1		1	1.2	3.8	5.2
Congenital malformations 157	37	24	13	4.4	***	***
Suicide 163, 164	24	20	4	9.6	7.2	6.5
Homicide 165-168	47	16	31	18.8	13.2	14.6
Accidental deaths 169-195	120	76	44	48.1	57.7	50.2
Motor vehicle accidents 170	44	28	16	17.6	22.1	19.9
All other defined causes	233	146	87	93.4	135.1	135.0
Ill-defined and unknown causes 199, 200	135	43	92	54.1	54.9	53.5

*Birth and death rates per 1,000 population; stillbirths per 1,000 total births (stillbirths included); infant deaths per 1,000 live births; deaths from specific causes per 100,000 population; deaths from puerperal causes per 10,000 total births. All rates are based upon the September report of the years specified.

** Not available.

***Included with "All other defined causes" in 1946 and 1947

Universal Military Training—During the period of my early education, I attended a school whose student body consisted of a cadet corps and where provision was made for instruction in elemental military tactics. This part of the educational program was thoroughly enjoyed by the students, who looked forward to the short daily drills, the military services, and the few occasions in which they made public appearances. I have never forgotten the clean, snappy, smart appearance of these boys, which was quite a contrast to the ragged attire of today. The results of disciplinary training were evident in their carriage and general deportment and the lessons of obedience and respect toward their elders and those in authority had been well learned. These boys of yesterday are the men of today and they have all achieved variable degrees of leadership in their communities and no small part of their success is due, in my opinion, to the fine educational and military training they received in early life. This is my earliest impression of the value of military training on the youth of the nation.

In later years, during World War I, I had the opportunity as a medical officer to study the value of and the effects of military service on the raw recruit and later on the trained soldier. After a few weeks in the service, the new recruit had exchanged his stooped, slouchy appearance for a soldierly bearing, and he had become more alert mentally. He learned how to be neat and orderly in his personal appearance and with his personal belongings. His weight increased as he was served good, wholesome, properly prepared food, and he learned the value of the different foods. He was given work, exercise of the right kind, and play, all in their right proportions, and as a result he learned how to relax and to sleep better. He was taught the meaning and value of personal hygiene and how to apply it. He learned early that good, comfortable housing is a necessary adjunct to good health and he was quick to learn that self-control, obedience, and respect for authority and for the rights of others are necessary for good citizenship and to success in later life. As a result of this and other educational and preventive measures, the physical and mental health of the soldier was improved to the point where illnesses of a common nature seldom occurred.

Subjecting the youth of this country to all of the benefits of a year of military training will not only improve them physically but mentally and morally as well. Certainly from the moral point of view many boys today could not be much worse off than they are now. Furthermore, in addition to teaching these boys how to live properly and how to take care of themselves, the fact that they will be inducted into service at an age where many of the defects that caused rejections in the last draft can be corrected is of tremendous importance.—*LeDoux, South. M. J., December '48.*

HEADQUARTERS HOTEL
1949 ANNUAL SESSION
WHITLEY HOTEL, MONTGOMERY

AMERICAN MEDICAL ASSOCIATION NEWS

NEW ANTIBIOTIC EFFECTIVE AGAINST SPOTTED FEVER

A new antibiotic drug called aureomycin has proved very effective in patients suffering from Rocky Mountain spotted fever, six physicians write in the December 25 issue of *The Journal of the American Medical Association*.

Their report is based on a study of 13 patients, treated with the drug since June, 1948.

Aureomycin is one of the new antibiotics. It is a golden-colored drug made from the chemicals manufactured by a thread-like mold that belongs to the family that produces streptomycin. Experimental evidence so far shows that the antibiotic possesses antirickettsial activity.

The doctors who made the study are Sidney Ross, Emanuel B. Schoenbach, Frederic G. Burke, Morton S. Bryer, E. Clarence Rice and John A. Washington. They are connected with the Research Foundation of Children's Hospital, Washington, D. C., and the Department of Preventive Medicine, Johns Hopkins University School of Medicine, Baltimore.

"The response of these 13 patients has been impressive, and it is apparent that aureomycin is an effective therapeutic agent," the *Journal* article says.

Seven of the patients were treated at Children's Hospital, Washington and one was treated at each of the following hospitals: Georgetown Hospital, Washington; Providence Hospital, Washington; Arlington General Hospital, Arlington, Va.; Prince George General Hospital, Cheverly, Md.; Sydenham Hospital, Baltimore, and Union Memorial Hospital, Baltimore.

Several case reports accompanied the *Journal* article. In one case, an eight year old boy was admitted to Children's Hospital with the complaint of fever of two days' duration and a rash of one day's duration. Ten days before the boy entered the hospital, an embedded tick was removed from his scalp. The boy was well until two days before he was admitted to the hospital. His fever fluctuated between 103 and 104 F.

Aureomycin was given within two hours and it was well tolerated by the patient. The

temperature returned to normal within three days and remained so during the rest of his stay in the hospital. The rash gradually faded and disappeared entirely by the fourth day of treatment.

In another case, that of a three year old boy, the temperature returned to normal within two days.

In the series of patients treated, the drug was administered for an average period of six days; the shortest period of treatment was four and a half days and the longest was nine days. The doctors stated that more investigation is needed to define the dosage range in order to get the best results.

In all of the patients there was a striking clinical improvement. On admission to the hospitals, the majority of patients were toxic, irritable, anorexic and lethargic. Within 24 to 48 hours after the drug was given, the "children were much more active and alert and showed a return of appetite and interest in their surroundings."

In the past, persons suffering from Rocky Mountain spotted fever were treated with para-aminobenzoic acid.

Aureomycin was found to be superior to para-aminobenzoic acid for several reasons. The temperature response, the doctors wrote, was much more dramatic with aureomycin. The average duration of fever after initiation of treatment with the new drug was two and one-third days. "This," the article says, "is to be contrasted with previous experience with para-aminobenzoic acid, where, in seven patients treated after the seventh day of illness, the average duration of fever following institution of therapy was 10 days."

FISHBEIN ANSWERS SOCIAL PLANNERS ON HEALTH

In an article entitled "Health and Social Security" in the current (December 25) issue of *The Journal of the American Medical Association*, Dr. Morris Fishbein says that "the problem of providing medical care wherever needed is not nearly as simple as many economists and political leaders would lead the American people to believe."

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ANSWERS TO SOME QUESTIONS IN VENEREAL SEROLOGY

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Interest in the rapid treatment of syphilis, in the premarital blood test law and in the state-wide venereal survey has been provocative of many questions during the last three years. The questions have been, for the most part, in regard to the serologic results of the penicillin treatment and a few to purely serologic matters. I have been anxious to give the desired information but could not answer some of these inquiries for lack of reliable, up-to-date clinical data. Questions in pure serology could be answered from my own experience but I have had scant opportunity of late years to accumulate much reliable clinical evidence. From the nature of its work, neither has the Rapid Treatment Center at Birmingham.

However, the Venereal Disease Research Laboratory of the United States Public Health Service has just issued a series of serologic studies on patients treated by the rapid penicillin method. Since these studies are not available to the profession at large, that laboratory has readily granted permission to draw upon this store of accurate information in answering the more numerous of these troublesome questions. These studies have been made over a period of four years by the same technicians and using the same tests. The dark field was used primarily. For the spinal fluid, as needed, the following were used: colloidal gold, Kolmer complement fixation, Eagle flocculation, microscopic for cellular elements and

tests for globulin and protein. For the routine checks by qualitative procedures, Kline exclusion, Mazzini, Kline diagnostic, Kahn standard, Hinton, Eagle and simplified Kolmer were used. As quantitatives, the Mazzini and the Kahn were used. The qualitative tests were made weekly for about the first six months, then biweekly, and finally monthly or less frequently, depending on the serologic improvement. The quantitatives were made as long as they showed any reaction. Tests were made for as long as 1656 days after treatment. No such meticulous posttreatment study has ever been made before, to my knowledge. The reports are on cases, culled usually because of some atypical features, from the thousands under treatment by the U. S. Public Health Service.

I have drawn also upon my own experience in the laboratory aspect of venereal serology which began with Wassermann's first publication in 1906 and culminated in the hectic years of 1938 to 1942 while in charge of the Division of Serology at the Army Medical School.

It must not be assumed that the information here given is the final word. Naturally, years of just such intensive study must be given before we can be sure, for instance, that the rapid treatment can prevent the late nervous manifestations of syphilis. Bacteriologically specific tests must be found, new and more effective treatment

methods developed, methods for the cultivation in purity of the treponema perfected or, perhaps, some now undreamed-of process of immunization brought to light before the last word can be said.

In order to clarify what follows, it may be pardonable to recall a few facts, well known but easily forgotten. All serologic tests for syphilis depend upon the presence in the blood stream of an obscure substance elaborated by the infectious process. This substance has been called "reagin" or "the reacting substance." Qualitative tests show its presence or absence for purposes of diagnostic confirmation. Quantitative tests measure its amount and are useful at first in estimating the probable severity of the infection and later in showing the progress toward seronegativity. It is well to remember just here that the attainment of seronegativity does not necessarily mean permanent or symptomatic or bacteriologic cure, although it does so in most cases. The incidence of relapses after periods of seronegativity shows that some hidden, sub-clinical focus of infection may persist, incapable for the time being of producing a serum reaction but which may be stimulated to activity by one or another means.

The questions are given in much the same form as they were asked. The answers, if not entirely satisfying to the curiosity of the questioners, will state the consensus of the best authorities today and will be as concise as is compatible with so complex a subject.

How soon does the blood become negative after the rapid treatment?

The majority of all cases reported by the Venereal Disease Research Laboratory became seronegative within six months. Of course, this is governed largely by the stage of the disease at which the diagnosis is made and treatment begun, upon the virulence of the infecting strain and upon the strength of the patient's resistance. Sera have shown various grades of reaction for as long as eighteen months. In contrast, an occasional one becomes apparently permanently negative as early as the 66th day. Cases in the secondary stage are presumed to be resistant to treatment. One such case, with a quantitative titer of 256 (an unusually high one) and without relapse or reinfection, did not become seronegative until the 617th day.

Another, with the same titer and with no relapse or reinfection, became apparently negative in only two months. The difference in these two instances can be attributed reasonably to a difference in individual resistance.

How long after infection does it take for the reaction to develop?

Generally speaking, in from two weeks to three months. Here again, individual resistance and virulence of the infecting strain play an important part. When delays are in excess of three months the suspicion is natural that there has been a later exposure than was admitted. That such is not always the case is illustrated by an instance which came under my close observation. This patient's chancre appeared 191 days after exposure to a known positive syphilitic. The reaction appeared 11 days later. It was impossible that another infection could have taken place since the man had been under treatment in a hospital for severe injuries incurred the night of exposure and since his injuries effectively precluded the possibility of intercourse during that time. Permanent seronegativity was attained 128 days after treatment. Here was, to all appearances, a high degree of resistance which was finally broken down by injuries and long hospitalization.

It may be added here that the reaction, once established, will reach its peak at the secondary stage; that is, if no treatment has been given. Even if the treatment is started before the peak has been reached, the chances are that the reaction will continue to rise for some time.

Does a reaction ever completely fail to appear in a proved case of syphilis?

It is doubtful that such an instance was ever seen before the rapid treatment was used. The older methods of treatment were too slowly effective to forestall positive serology and, moreover, diagnosis could not be made as early then as now. A case cited by the Venereal Disease Laboratory illustrates the possibility. The chancre appeared 28 days after exposure to a positive contact; the dark field was positive and treatment begun 5 days later. No reaction developed for 731 days, during all of which time blood tests were run regularly. This was felt to be ample evidence that all serologic reaction

in a proved syphilitic had been aborted by the treatment.

Two similar cases came to notice in the Army. One, with an incubation period of 24 days and a dark field positive chancre of three days' duration, received his first treatment on the day the dark field was made and showed no reaction for 592 days. The other, with 30 days' incubation and a dark field positive chancre of 2 days' duration, also received his first treatment on the day the dark field was made and had not shown any reaction for over 3 years. Both these men had had intercourse with known positive contacts; both chancres were typical, though small; both dark field diagnoses were unquestionably accurate; both sera were frequently and carefully tested during the follow-up period; both were treated with penicillin. It seems beyond doubt that no short-lived reaction in any of these three cases could have been missed considering the frequency of the posttreatment tests. The non-appearance of these reactions probably resulted about equally from the early diagnosis and the method of treatment.

Does the reaction ever appear for the first time after the start of treatment?

This is not uncommon in these days, although the Venereal Disease Research Laboratory records but one instance. There was an incubation period of 40 days, a dark field positive chancre of 10 days' duration but no reaction until 9 days after treatment. There was a low quantitative titer of 2 units. The reaction became negative in 81 days and remained so for 566 days of follow-up tests. Considering the low quantitative titer, it is likely that the whole reaction might have been aborted if the therapy could have been started earlier. Several similar instances have been seen in the Army recently in which the reaction developed in from 5 to 13 days after treatment.

Are there any points of differential diagnosis between relapse and reinfection?

The reluctance of patients to admit a new exposure makes this a frequent question. It cannot be answered dogmatically. There are no hard and fast criteria of differentiation. The following points should be considered.

Most relapses come in the first six months after treatment. The quantitative titer may have decreased or disappeared while the

qualitatives may have been reduced to only scattered doubtfuls and positives. Suddenly either or both of these reactions rise sharply. Often this is accompanied by the appearance of a macular or papular rash, indicating a clinical recrudescence. As a rule, relapse takes place in a case whose initial quantitative titer was high (128 units or over), no matter how much it has decreased under treatment. Retreatment usually consists in doubling or tripling the original dose, shortening the interdosage interval to two hours and increasing the number of doses by one-third. If instituted promptly, this is effectual in almost all cases.

A reinfection may occur at any time and is likely to be marked by the appearance of a new chancre, either at the old site or elsewhere. Unless especially virulent in type, a reinfection is apt to respond to therapy more quickly than does a relapse. This is logical, since a relapse presupposes either a severe and stubborn infection needing a higher dosage than the routine initial course or a low resistance on the part of the patient.

If the patient cannot be kept under close observation and control, this distinction is difficult to make and the decision is likely to be that the ratio between relapse and reinfection is about 50:50 anyway, that certain differentiation is impossible and that, either way, the treatment and results are the same.

These two complications best illustrate how necessary it is to keep up regular and frequent checks of the serum over a long posttreatment period.

What is the explanation of divergent reports on the same serum by different laboratories?

These misleading reports are exasperating to the physician out of all proportion to their frequency. This is the more so because many of them complicate an already troublesome case, particularly one in which the diagnosis or the treatment is unusually dependent on the serologic report.

The natural tendency is to blame one or the other of the technicians with a lapse in technique. This does happen more often than there is any valid excuse for. However, over the last thirty years I have had occasion to investigate such discrepancies with care and impartiality. They have involved my own work, my technicians' work and that of other laboratories. The evidence

is that less than ten per cent have been due to breaks in technique.

The most frequent cause is the employment of different test methods. Since our tests vary in sensitivity, this causes grave differences of reaction in borderline cases. This is the source of much argument, each laboratory contending that its pet test or tests cannot be impugned and that its technicians are the more skillful. A little patience on the part of the physician and his willingness to repeat doubtful tests usually settle these disputes.

Somewhat less often there occurs a change in one portion of the serum due to bacterial or chemical contamination or to heat. Careless handling of serum or non-sterile mailing containers will result in bacterial contamination, any amount of which will change a reaction. Chemical contamination from traces of soaps or detergents in mailing tubes will act in the same way. Changes from heat are naturally more frequent in summer. If left without refrigeration for any length of time, a specimen of whole blood is likely to become hemolyzed which ruins it for a test. When delayed in post offices or mail trains, sera may become spoiled in cold weather by accidental and prolonged contact with a hot radiator.

What causes false reactions and can they be proved false?

When the basic reason for the serologic reaction in syphilis is so little understood it is not strange that the occasional positive reactions in non-syphilitic cases are unexplained. In seeking an explanation, it is reasonable to believe that the so-called "general biologic reaction" may bear on the question. The serum of all lower animals gives a positive reaction with antigens in current use. Also, a reaction can be elicited from normal human serum by varying the dilution of antigen from the optimum. This abnormal reaction seems easier to produce in the serum of a few individuals than in the serum of the majority. In these few, the line of demarcation between the general biologic type and the normal type appears to be loosely drawn, in so much that some minor non-specific condition may cause a positive reaction. Varying degrees of reactions have thus been produced in such differing conditions as adenitis, alopecia areata,

appendicitis, sebaceous cyst, bone fracture, malaria, varicocele, vaccinations and tuberculosis, to mention only a few. The theory seems logical but awaits definite proof.

The most interesting of these instances are in those young women who show a strong positive reaction which begins on the first day of the menstrual period, wanes as the period progresses, and disappears as it ceases until the start of the next period. The first case of this kind coming to my attention gave me no little anxiety. The reaction was found by accident as part of a physical examination for college entrance. There was no family history, sign or symptom other than the 4-plus Kahn. The case was carefully investigated for many reasons. Kahn's verification test had just been published and it gave a general biologic type of reaction. Subsequent tests revealed that the positive reactions were strictly synchronous with the menstrual flow only and were absent during the intermenstrual cycle. Since that time she has married, had normal children and has been in perfect health. Two other similar instances have lately come to my notice concerning which there is no detailed information beyond the presence of the reaction.

Any febrile affection, any condition producing tissue destruction or some cryptic physiologic malfunction all have been assigned as exciting factors in the production of false reactions. Perhaps a synthetically prepared antigen from purified extractives, such as the cardiolipin antigen now on trial at the Venereal Disease Research Laboratory, may do away with these harassments.

Reference has been made to Kahn's verification test for differentiating between true and false positive reactions. This test depends upon (1) salt dispersibility, (2) the difference in strength of reaction at 1° C., 21° C., and 37° C., and (3) a combined triple quantitative and salt dispersibility technique. The test is tricky and requires skillful handling. If the reactions are distinctly of one type or the other, its testimony is valuable in differential diagnosis. Many are not clearly of either type and must be classed as inconclusive.

Has the rapid treatment ever totally failed to produce a negative serum in an undoubted syphilitic?

The Venereal Disease Research Laboratory lists only one case which it classes as a serologic failure. The first course consisted, as usual, of 20,000 units, every 3 hours, for 60 doses. Because of an increased quantitative titer, a second course was given 305 days later, consisting of 60,000 units, every 2 hours, for 85 doses. In 1260 days seronegativity had not been reached. The fact that only one case out of the thousands under observation is listed indicates that serologic failure is a rarity. No comment is made as to whether or not this case might be set down as a clinical or symptomatic cure, despite the serologic failure. The scarcity of serologic failures with the penicillin treatment is in sharp contrast to the

numbers of "Wassermann-fast" reports of former days.

These serologic studies which have furnished so much of the foregoing information form a most reliable, elaborate and welcome contribution at this time. They impress upon the most casual reader one conclusion above all others: that frequent serologic checks are paramount necessities after treatment. Checks should be qualitative always, and quantitative if and when indicated. It may seem eccentric to be seeking any additional work for our already over-burdened laboratories but in no other way can the inevitable mischances be discovered in time for early and effective correction.

POSSIBLE APPLICATION OF THE XYZ FACTORS IN THE BIOLOGIC CLASSIFICATION OF TUMOR CELLS

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Since the earliest reports on transplanted tumors, many workers have searched for the presence of specific substances or viruses in cancer cells which might be shown to have some biologic effect on the course of the tumor. Among the techniques used to break down the tumor cells were chemical extraction, freezing, autolysis, radium, x-ray and heat. When we began our work in 1929,¹ none of the various techniques (recommended for the demonstration of substances with biologic activity in the cells of transplanted tumors) had been confirmed by other workers. Most reported experiments had contained too few animals to calculate statistical significance, and the techniques, with the exception of that employed by Haaland and by Leitch (to be described later), were not those acceptable today for the handling of labile proteins or viruses.

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1. Casey, Albert E.: Experimental Enhancement of Malignancy in the Brown-Pearce Rabbit Tumor, *Proc. Soc. Exper. Biol. and Med.* 29: 816-818 (April) 1932.

While working with the preservation of blood cells by refrigeration,² it occurred to us that keeping cancer cells frozen might destroy the viability of the cells on transplantation and yet retain activities of specific substances or viruses, if such might exist in the cells. It was premised that if one injected such tumor material and then waited a period of ten days or two weeks, an immunity might develop which could be demonstrated on the subsequent transplantation of the same but not of other tumors. Another reason for the delayed transplantation was to obviate any possible effect of nutritional substances such as stimulate tumor growth in tissue culture.

We were somewhat surprised to find that rabbits treated with an emulsion of frozen Brown-Pearce tumor cells (24° F.) and 10-14 days later transplanted with the same tumor in a different site grew earlier and larger primary tumors and more and larger metastases and experienced a greater mortality from the tumor.¹ This was confirmed by subsequent experiments, and the phenom-

2. Casey, Albert E., and Rosahn, Paul D.: Delayed Differential Counting of the White Blood Cells by a Modified Supravital Technique, *Soc. Exper. Biol. and Med.* 28: 658-659, 1931.

enon, characterized by the injection of frozen tumor tissue, followed by subsequent transplantation of the same neoplasm and the recognition of enhanced primary and secondary tumor growths, was designated as the xyz phenomenon. The unknown substance or substances responsible for the phenomenon were called the xyz factors.

A search of the literature revealed that Haaland, in 1910, had performed almost identical experiments with Bashford Carcinoma 63 in the mouse.³ He froze fresh tumor tissue with liquid air for 1½ hours before injection and transplanted with the same tumor 15-20 days later, obtaining a greater incidence and volume of primary tumors in the treated mice as compared with equal numbers of control mice. Leitch, working independently in 1910,⁴ also observed the xyz phenomenon in Bashford Carcinoma 63 after keeping bacteriologically sterile Carcinoma 63 tissue at 32° F. for 2-30 days before injection at 3 ten-day intervals into 27 mice. Twenty-four days after the last injection, Leitch transplanted Carcinoma 63 into the same mice and into 27 control mice. Thirty-three per cent of the controls and 78% of the treated animals grew tumors, individual tumors measuring 39 sq. mm. in the controls and 11 sq. mm. in the treated animals. Both the results of Haaland and those of Leitch, when calculated by modern methods, are of statistical significance. We were able to confirm the presence of an xyz factor for Carcinoma 63 in ten experiments using 300 mice.⁵ In addition to the Brown-Pearce tumor and Bashford Carcinoma 63, an xyz factor was demonstrated by us in mouse Sarcoma 180.⁶

The xyz phenomenon was also observed by Flexner and Jobling in 1907 in the Flex-

ner-Jobling rat sarcoma^{7, 8} and by Chambers and Scott in 1924 using the Jensen rat sarcoma,^{9, 10} both authors breaking down the cells by prolonged, gentle heat. The use of heat was a poor method for extracting the xyz factors because sometimes the tumor fractions were active and sometimes they were not, and other workers were not able to confirm the observations. It is possible that, if the cells in these two tumors could be disintegrated by freezing, the phenomenon could be elicited with regularity. The Brown-Pearce xyz is thermolabile, and that in Sarcoma 180 disappears in 3 weeks when preserved at 30-40° F. We have recently tested Brown-Pearce tumor tissue kept at 0° F. for more than a year and found the material strongly active.

When we began our experiments, a 24° F. ice-box was the coldest to which we had access, but subsequently the electric or dry-ice deep-freeze containers have been adopted as the routine storage facility for cancer tissue used in xyz experiments (usually covered with 50% glycerin in normal saline to reduce the danger of bacterial contamination). When recently frozen tumor tissue was used, in some instances growths appeared at the site of the injection of the frozen material when animals were subsequently transplanted in a different site; hence the technique was adopted of keeping the tumor cells frozen for 10-14 days before using.

In carefully controlled experiments, we were unable to demonstrate the xyz phenomenon in the Brown-Pearce tumor by the injection of xyz material from Greene's uterine adenocarcinoma of the rabbit, or by the injection of xyz material from Sarcoma 180 or Bashford Carcinoma 63. Likewise, we were unable to demonstrate the xyz phenomenon

3. Haaland, M.: The Contrast in the Reactions to the Implantation of Cancer After the Inoculation of Living and Mechanically Disintegrated Cells, *The Lancet* 88: 787-780 (March 19) 1910.

4. Leitch, Archibald: Experimental Diminution of Resistance to Mouse Cancer, *The Lancet* 88: 991-992 (April 9) 1910.

5. Casey, Albert E.: A Species Limitation of an Enhancing Material Derived from a Mammalian Tumor, *Proc. Soc. Exper. Biol. and Med.* 30: 674-677 (Feb.) 1933.

6. Casey, Albert E.: Specificity of Enhancing Materials from Mammalian Tumors, *Proc. Soc. Exper. Biol. and Med.* 31: 663-665 (March) 1934.

7. Flexner, S., and Jobling, J. W.: On the Promoting Influence of Heated Tumor Emulsions on Tumor Growth, *Proc. Soc. Exper. Biol. and Med.* 5: 16-18, 1907.

8. Jobling, J. W.: The Biology of a Mixed Tumor of the Rat, *Monographs of the Rockefeller Institute for Medical Research*, No. 1, pp. 52-72 (June 30) 1910.

9. Chambers, H., and Scott, T. M.: Experiments on Immunity to Tumor Growth, *Brit. J. Exper. Path.* 5: 1-12, 1924; On a Growth-Promoting Factor in Tumor Tissues, *Brit. J. Exper. Path.* 7: 33, 1926.

10. Chambers, H., and Scott, T. M.: Immunity to Jensen's Rat Sarcoma Produced by Tumor Extracts, *J. Path. and Bact.* 35: 283-290, 1932.

in animals transplanted with Carcinoma 63 which had previously been injected with xyz material from Sarcoma 180, Mouse Carcinoma 48, or the Brown-Pearce rabbit tumor, nor with normal adult rabbit tissues frozen in the usual manner. Again, we were unable to elicit the xyz phenomenon in mice transplanted with Sarcoma 180 which had been previously injected with xyz material from Sarcoma 37 of the mouse, Bashford Carcinoma 63 of the mouse, or from the Brown-Pearce carcinoma of the rabbit. It was concluded, therefore, that the xyz materials are relatively specific and experiments are now under way to determine whether, in a group of six mouse mammary carcinomas, there may not be found some with the same xyz material. If this be true, it should be possible to differentiate strains of tumor cells, even those morphologically similar or dissimilar, utilizing the xyz phenomenon.

While this work was being prepared, we were fortunate in being able to analyze tabular material presented as an exhibit at the Fourth International Cancer Congress in St. Louis in September 1947 by Cloudman, Snell and Failor.¹¹ They have demonstrated, with statistical significance, xyz factors in mouse Mammary Carcinoma 15091a, mouse Mammary Carcinoma Eo771, and in Fibrosarcoma L946. These authors also performed extensive experiments indicating that no xyz factor was demonstrable in myelogenous leukemia C1498 and lymphoid leukemia P1534, nor were they able to stimulate transplants of these two leukemias using xyz material from mouse Carcinoma dbrc, Sarcoma L946, Carcinoma 15091a, Carcinoma Eo771, or Carcinoma C617. Even using six different inbred strains of mice, the resistance of each of these six strains of mice was nevertheless broken down by the homologous xyz material from 15091a, Eo771, and L946. This failure with the leukemias seems understandable to us in that no xyz material has been demonstrated for adult tissues or benign tumors. Some years ago we made mitosis counts on human and animal lymphatic and

myelogenous leukemia tissues and found that the mitotic rates, in both, were those of benign rather than malignant tumors; and we have since classified all leukemias except the borderline group, such as lymphadenosis, as benign tumors.^{12, 13} Furthermore, Greene has been unable to transplant leukemias to the eye of a foreign species, which, according to his use of heterologous transplantation as a criterion, of malignancy, would place these in the benign tumor group.^{14, 15}

SUMMARY AND CONCLUSIONS

1. Xyz factors are those substances taken from tumor cells which, when injected 10 or more days prior to tumor inoculation, result in the greater incidence of and larger primary tumors and in a greater incidence, number, and volume of metastatic tumors and a greater mortality.

2. Xyz factors have been demonstrated by Haaland, by Leitch, and by ourselves for Bashford Carcinoma 63; by us for the Brown-Pearce Tumor and Sarcoma 180; and by Cloudman, Snell, and Failor for Mammary Carcinoma 15091a, Fibrosarcoma L946, and Mammary Carcinoma Eo771.

3. The factors may be preserved by using those techniques required for the handling of labile proteins and viruses; namely, dry ice or electric deep-freeze chambers, or lyophilization.

4. Every malignant tumor studied has been shown to possess an xyz factor, but these factors have not been demonstrated in normal adult tissues or benign tumors.

5. The experiments of Snell, Cloudman and Failor are interpreted by us to indicate the absence of an xyz factor in lymphatic leukemia P1534 and myelogenous leukemia C1498. Nor could these two leukemias (which we interpret as benign tumors) be

12. Casey, Albert E.: A Study of Some Lymphatic Diseases by Means of a New Yardstick—The Mitosis Count, *Proc. Am. Assn. Cancer Research*, Chicago, March 24, 1937; *Am. J. Cancer* 30: 586, 1937.

13. Casey, Albert E.: The Prognostic Value of the Mitosis Count in Biopsies of Lymphosarcoma, *Am. J. Cancer* 29: 47-56 (Jan.) 1937.

14. Greene, Harry S. N.: The Occurrence of Dependent and Autonomous Phases in the Development of Cancer, *A. A. A. S. Res. Conf. on Cancer*, p. 160, (July 31-Aug. 4) 1944.

15. Greene, Harry S. N.: The Biological Assessment of Tissue Potentialities, *Proc. Fourth International Cancer Congress*, pp. 25-26, (Sept. 2-7) 1947.

11. Cloudman, A. M.; Snell, G. D., and Failor, E.: The Value of Transplantable Tumors, Exhibit, *Proc. Fourth International Cancer Congress*, p. 150 (Sept. 2-7) 1947; Snell, G. D.; Cloudman, A. M.; Failor, Elizabeth, and Douglas, Patricia: Inhibition of Lyophilized Tumor Tissue, *J. Nat. Cancer Inst.* 6: 303-316, 1946.

stimulated in the experiments of Snell, Cloudman and Failor by xyz materials prepared from mouse Carcinoma dbrc, Carcinoma 15091a, Carcinoma Eo771, or Fibrosarcoma L946.

6. The xyz factors studied by us have been specific in that they have broken down host resistance to the same but not to other malignant tumors. It is possible, therefore, that the xyz phenomenon may be employed as a test to differentiate strains of tumor cells.

7. Since the Brown-Pearce xyz factor greatly influences the incidence and growth of metastases, it is possible that the increased

incidence and number of metastases resulting from the break down of cancer cells with x-ray as described by Kaplan and Murphy¹⁶ and the heterotransplantability to foreign species as demonstrated by Greene^{14, 15} are largely the effect of the xyz factors in the malignant tumors employed. If the latter be true, xyz factors in human tumors might be studied and differentiated by eye or egg culture techniques.

16. Kaplan, Henry S., and Murphy, Edwin D.: The Effect of Radiation on the Biological Behavior of a Mouse Mammary Carcinoma, *Proc. Fourth International Cancer Congress*, p. 141, (Sept. 2-7) 1947.

INVERSIONS AND RUPTURES OF THE UTERUS

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Viewed from any angle, an inverted or a ruptured uterus is a breath-taking accident both to the patient and the obstetrician. Inversion is a condition arising when the inside of the uterus turns outside, and, conversely, when the outside has gone inside. Some obstetricians with large practices have never had a case of inversion and in many hospitals it has never occurred. Some estimates state it happens once in 4,000 cases; others once in 100,000 cases.

There are three degrees of inversion of the uterus: (1) incomplete, when the fundus of the organ falls into the uterine cavity but does not go through the cervix; (2) complete, when the fundus and much of the corpus has passed through the cervix, with the condition concealed within the vagina; and (3) prolapsed inversion, when the complete inversion is expelled through the labia. Intestines may be enclosed in the cavity thus formed in any type of inversion.

ETIOLOGY

This is varied and debatable. Some think the condition is due to bad management of the third stage of labor. That can be true. Others say laxness of the uterine walls allows the fundus to slip into its uterine cavity. That may be true. Then again a fundal attachment of the placenta may so thin and

weaken the area of attachment that the part involved "caves in" into the uterus.

Again, any one can conceive that pulling the cord of a still attached placenta may also drag the attached area down with the placenta. The cord should never be pulled to remove a placenta from its place of implantation. When normal detachment occurs, the uterus rises toward the maternal umbilicus as the placenta lodges in the lower uterine segment, and, when it is in the vaginal vault, the uterus is just below the mother's navel. In either of these latter two conditions cord traction does no harm and saves time. Crede's method might aid in the expulsion of a detached placenta, but, except for this and for hemorrhage, there is much doubt as to the justification for ever using it. The uterus may be pulled up from the symphysis but not massaged. Perhaps improper use of the Crede technic is a potent cause of uterine inversion. Many doctors and nurses seem to think it is correct to squeeze the uterus as soon as the baby is born, expecting thereby to hasten the expulsion of the placenta. There is no reason for doing this unless the patient is bleeding abnormally. It should not be done otherwise. It is best to keep the hands off the abdomen over the uterus. A large percentage of inversions undoubtedly occur spontaneously.

Read before the Jefferson County Medical Society, April 5, 1948.

When the placenta has been delivered, an immediate vaginal examination should always be made. In addition, two retractors should be inserted into the vagina to be held in position by a nurse. The doctor then draws down the cervix with two-ring forceps and searches for birth damages. These procedures will occasionally reveal a uterine inversion.

It is an appalling sight to find an inverted uterus with attached placenta lying on the bedding just outside the vulva. Occasionally the mistake is made of trying to pull it all out. In some instances a minor degree of inversion may not be discovered, which does not accredit the doctor.

PROGNOSIS

Occasionally a patient dies of shock. Again, there may be almost no shock apparent. Also, a cervix may so tightly grasp the extruded corpus uteri that gangrene has resulted, and in other cases the condition may become chronic. In many instances recovery is complete and immediate upon reposition.

TREATMENT

The condition must be treated immediately if shock is not too great. Treatment varies according to the type or degree of inversion. Some attendants believe a still attached placenta should be detached. Others believe oppositely. Perhaps it is better to remove the placenta. In either category, with one hand on the patient's abdomen to make counter pressure and the other in the vagina, grasp the inverting segment of the uterus, the fingers held extended and somewhat forming a circle, and push the fundus back through the cervix, somewhat as taxis is performed in reducing an inguinal hernia. However, the cervix usually contracts quickly, sometimes making replacement impossible. If the cervix is unyielding, the intravenous injection of an ampule of adrenalin chloride may be considered. The earlier administration of some ergot or pituitary preparation may render non-surgical treatment impossible. Then one may consider surgery within the vagina after the initial shock has subsided sufficiently. The cervix is incised and perhaps the uterine wall, and the dependent portion of the uterus pushed back through the cervix. An assistant's hand on the abdomen is necessary when the inversion is being pushed upward. Occasionally one has to resort to hysterectomy.

The writer has cared for six cases of inverted uteri. The first and the last were spontaneous and prolapsed, the placenta and uterus all coming together as the baby was born. In each case the cord was abnormally short. There were two incomplete inversions, which were rather easily replaced. One was probably caused by pulling on the cord due to haste in removing a placenta while the patient was in an eclamptic seizure. The Crede method may have caused the other.

The two complete inversions were likely caused by manipulations by nurses. One was due to vigorous pushing on the uterus in an effort to expel the placenta while the patient was in the birth room; the other to uterine massage to control free bleeding after the patient had been returned to her room. She almost died of shock before the inversion was discovered. She has later been delivered by another doctor. There was considerable difficulty experienced in replacing the inversion in these two cases of complete, but not prolapsed, inversion. All of the patients happened to be under ether anesthesia at the time the inversion occurred. The first one was at the Salvation Army Hospital, the second at West End Hospital; one, a prolapsed, at the Jefferson Hospital, two at South Highlands Infirmary, and one at Norwood Hospital. No baby or mother died.

RUPTURE OF THE UTERUS

Rupture of the uterus is as fearful an accident as can happen during the performance of a physiologic function. If the doctor loses his head, the patient may lose her life. She may do so anyway. Many, however, recover. Experienced obstetricians believe it happens oftener than is diagnosed.

Ruptures of the uterus are classed as spontaneous and traumatic. They are incomplete when only the musculature tears and the peritoneum remains intact, and complete when both musculature and peritoneum are torn. Of course, all realize that the latter is the more dangerous form.

ETIOLOGY

Ruptures may occur as a result of a Bandl's contraction ring, a transverse position of the baby, incarceration of the cervix; weakened musculature, as when the placenta is deeply attached; or an old cesarean scar, especially

when following the low cervical or extra-peritoneal type of operation. Rupture is not so apt to occur in the very high or fundal section operation. All women who have had a low cervical or low classical operation are practically doomed to repeated sections in subsequent pregnancies. We all know the lower uterine segment is the part which has to be dilated or stretched during labor. That is where most uterine ruptures occur.

Tetanic uterine contractions predispose to rupture, as does a large hydrocephalus. A pendulous abdomen, with the cervix caught below the bony sacral promontory, is also a cause. Ruptures have often occurred when a large hand and arm are attempting to do a version, thus greatly distending an already overtaxed uterus.

Pituitrin has caused a multitude of ruptures. It is a deadly drug in the hands of the inexperienced. Its use in nulliparous women in labor is unjustified. Infundin is the oxytocic of choice, and can safely replace ergotrate.

SYMPTOMS OF IMPENDING RUPTURE

The uterus is in tonic contraction, making increasingly great effort to expel its contents. Pains are long and strong, but do not expel. The uterus becomes tetanic about the baby and its position cannot be determined. The uterus is very tender and hard. The round ligaments may occasionally be felt as rigid bands. The vagina is hot and dry, and the walls may appear swollen. The mother becomes excited; so does the doctor. She feels that something terrible is wrong and that she will die.

Sometimes the child may move violently, and frequently dies. Soon after rupture occurs, severe shock ensues, with its attendant manifestations. The patient frequently is actually aware of the rupture. A rupture in the broad ligaments may not bleed freely immediately. In ruptures there is no great external hemorrhage visible, and incomplete ruptures may not be diagnosed. Usually the child may be easily felt within the abdomen after rupture. Occasionally a rupture occurs when the physician least expects or suspects it.

The mortality is 40 per cent to 70 per cent.

TREATMENT

When rupture is anticipated, full doses of morphia may be given, and surgical anesthesia induced. The majority of doctors

prefer ether. If possible, the baby is delivered by forceps or mutilation, unless section can be quickly arranged. Version should never be attempted. When the child is in the peritoneal cavity, abdominal section is the only procedure.

If the baby is born before the tear is recognized, the abdomen may have to be opened to remove the placenta if it has escaped into the cavity. Then the uterine tear is repaired, if possible. Hysterectomy may be necessary, depending upon the location and character of the tear. A great many cases have been satisfactorily treated by packing the rent, when not too large, with gauze, which is gradually removed day by day until all is withdrawn. Most of the cases at the Dublin Rotunda are thus treated.

REPORT OF CASES

The writer has cared for seven cases of ruptured uteri.

The *first one* was 23 years ago. The attending physician had tried to deliver the baby with forceps. The left blade had been pushed through the vaginal fornix into the abdominal cavity. Violent traction tore out a plug of the lower segment. Failing to deliver the baby, the patient was sent to the old Birmingham General Hospital. The mother died before any operative procedure could be arranged, and a cesarean section was done with a pocket knife. A baby with a crushed skull was found.

The *second patient* had been given pituitrin. Cervix and adjacent tissues were torn. The cervix was sutured and the upper part of the wound was packed with gauze. The baby and mother lived.

The *third* was the victim of a low cervical section done three years previously. She was first seen at her residence. A part of the baby was distinctly felt in the abdomen. The writer did another section and found the baby's buttocks plugging the rupture of the old cesarean scar. Mother and baby are living.

The *fourth* was at the Salvation Army Maternity, after another physician had delivered a dead baby by version. Being called to the case shortly after the doctor had left the patient, the writer found a dying mother, with a uterus full of intestines and a large tear in its left lower segment.

The *fifth* rupture was at the Jefferson Hospital, soon after its opening. A nullipara had

a spontaneous rupture of the fundus under the liver. It was at the very beginning of her labor. She felt that something had gone wrong but did not report it until six hours later. At the hospital several consultants saw her but the condition was not diagnosed. She became greatly shocked, and, although it seemed that she would surely die, a section was done. The baby was dead but the mother lived.

The *sixth* was at the South Highlands Infirmary two years ago. The writer had done a cesarean section only ten months before, and the woman was now eight months' pregnant, becoming so two months after the section was done. The scar gave way, and a second section with sterilization was done. The mother lived but the baby was lost.

The *seventh* was also at the South Highlands Infirmary. The patient had a contracted pelvis and had been in labor several hours when first seen. Pains had suddenly ceased while on the way to the hospital. A section was done and a ruptured uterus and bladder were found. Mother and baby lived.

Mortality of mothers in this series was 2.8 per cent; fetal mortality was nearly 50 per cent.

PEDIATRIC CASE REPORTS

Edited by

AMOS C. GIPSON, M. D.
Gadsden, Alabama

C. P. G., age 2 months, was apparently well until September 28 when she began to have pin-point petechial hemorrhages over the body. The rash continued to spread and the hemorrhagic spots grew larger.

When she was admitted to the Clinic on September 30, the petechial hemorrhages were present over the entire body. The bleeding time was over 40 minutes; clotting time normal; platelet count 18,000; tourniquet test (Rumpel-Leede) markedly positive. The temperature was normal and remained throughout.

On September 30, 200 cc. of citrated fresh blood were given intravenously.

October 1: Platelet count, 25,000. Bleeding time, 7 minutes, 15 seconds. 200 cc. of citrated fresh blood were given intravenously.

October 2: Platelet count, 54,000. Bleeding time, 3 minutes, 6 seconds.

October 3: Platelet count, 58,900.

October 4: Platelet count, 79,200.

October 5: Platelet count, 84,900. Bleeding time, 3 minutes, 11 seconds.

When she was discharged on October 6, there was very little evidence of the petechial hemorrhages.

This is a typical case of thrombopenic purpura.

DISCUSSION

The diagnostic points are (1) low platelet count, (2) prolonged bleeding time, (3) absence of, or prolonged clot retraction time, and (4) tourniquet test—positive.

Transfusion of fresh citrated blood (not bank blood) is the choice treatment.

There may be recurrences. If so, a splenectomy may have to be considered. If this operation is done, the accessory spleens should also be removed.

Preoperative Liver Function—In treatment of the damaged liver the major effort should be the maintenance of an optimum nutritional state. Since the separate published reports of Whipple and Patek it is assumed that the diet should include the daily ingestion of from 350 to 500 Gm. of carbohydrate, 150 to 250 Gm. of protein, and 100 to 150 Gm. of fat. Since chronic hepatic insufficiency presents many of the features of a complex deficiency disease, liberal quantities of vitamins should be supplied in the form of powdered brewers' yeast in doses up to 30 Gm. three times daily, diluted in fruit juice. Blood proteins should be raised, if necessary, by the use of protein hydrolysates, plasma, or albumin. Transfusions should be given to correct low hemoglobin levels and to elevate serum proteins. Vitamin K should be given where there is deficiency in prothrombin time. There is no conclusive proof at present that the administration of choline and methionine in drug form will be of any material help. A sufficient quantity of these lipotropic substances will be present in the diet just described.

The recent report of Labby, Shanks, and Hoagland on the use of intravenous liver extract in a small series of cases at the Rockefeller Institute is encouraging. In their estimation the chief value in its use lies in the early return of appetite. Since most patients with liver disease do not want to eat, their work may signify a material advance in treatment. Reactions in my experience are troublesome. Sensitivity tests should first be done and treatment begun with minute amounts, gradually increasing the dose over a long period of time.—*Johnston, Texas State J. Med., Jan. '49.*

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ANTI-HISTAMINIC DRUGS IN ITCHING DERMATOSES

"Recently Feinberg summarized most of the work with Benadryl and Pyribenzamine in the United States. These drugs have now been widely used in many allergic and some nonallergic diseases. Very early during the clinical investigation of the so-called antihistaminic drugs, it was noted that they exert a significant effect not only on certain dermatologic lesions but also on the important subjective sensation of itching. It was obvious that if they exerted a definite antipruritic effect in a significant proportion of cases the antihistaminic drugs would be valuable adjuvants in the treatment of itching dermatoses . . .

"Since then we have had the opportunity to study the effects of antihistaminic agents in several hundred patients with various allergic and nonallergic pruritic dermatoses. For various reasons approximately 80 per cent of cases were treated with Pyribenzamine and approximately 20 per cent with Benadryl . . .

"A striking objective effect could be observed only in certain of the whealing lesions. This effect was of course most noticeable in urticaria, including urticarias due to physical agents (cold, light, stroking, e. g.) but was also seen in the urticarial

elements of those dermatoses which present wheals in addition to other lesions (e. g., some cases of multiforme erythemas, dermatitis herpetiformis, and acute eczematous contact-type dermatitis).

"No such direct effect of the antihistaminic agents was noted on any of the many other types of dermatologic lesions. However, while there was no visible direct effect of the antihistaminic drugs on nonurticarial skin lesions, the indirect effects achieved were sometimes of clinical importance. In some cases such indirect effects were obviously achieved through a reduction of itching and the consequent reduction in scratching and other external traumatization . . .

"We observed a number of patients in whom Benadryl was effective against itching or urticarial lesions when Pyribenzamine was not effective, and conversely patients in whom Pyribenzamine was effective while Benadryl was ineffective. Thus, when one of these drugs has failed, it is always warranted to try the other. As a rule, it was not possible to compare the antipruritic efficacy of Benadryl and Pyribenzamine in the same patients and no definite statement as to their relative efficacy can be made. However, Pyribenzamine is usually our drug of choice because of the greater tendency of Benadryl to produce undesirable side effects, especially in its greater soporific action.

The principal side-effects encountered were sleepiness, nausea, excitement and headache. "Untoward effects occurred as a rule at the beginning of the administration of the drugs, that is, within the first few hours to one or two days." And "there were only a few patients in whom the drugs had to be permanently discontinued because of the severity of the side-effects."

The New York investigators' conclude in part that "the antihistaminic drugs, Pyribenzamine and Benadryl, are valuable adjuvants in the treatment of some cases of itching dermatoses."

So serious is the plight of those suffering from chronic and severe itching that both the patient and his doctor may be well inclined

1: Baer, Rudolf L.; Sulzberger, Marion B., and Witten, Victor H.: Treatment of Itching Dermatoses with Antihistaminic Drugs, *Am. Prac.* 2: 234 (Dec.) 1947.

to try almost anything that affords any promise of relief. And it is certainly to be hoped that these drugs will provide relief upon an ever-widening scale as we learn more and more about them. Physicians must stand ready to employ these new drugs wisely and with continuous alertness and discretion. The authors are certainly correct when they warn us that "the possibility of severe reactions in an exceptional case cannot be excluded as yet and it cannot be urged too strongly that these drugs, which must often be taken for lengthy periods, *should be dispensed only on prescription and taken while under competent medical supervision.*"

PRESENTATION OF HARRIS PORTRAIT

A portrait of Dr. Seale Harris, Birmingham, Alabama was presented to the Medical College of Alabama on the evening of Friday, December 17. The portrait was a gift of the doctors of Alabama honoring Dr. Harris, who is Professor Emeritus of Medicine, for his accomplishments in medical science. Dr. Harris was Professor of Medicine at the Medical College of Alabama when the school was located in Mobile. He is known as the discoverer of hyperinsulinism and is a medical biographer of note. The presentation was made by Dr. Lon Grove of Atlanta.

THE A. M. A. ASSESSMENT

Reprinted from N. Y. State J. M.

The House of Delegates of the American Medical Association, at its 1948 interim session in St. Louis, voted unanimously for a proposal to assess each member of the Association the sum of \$25 for the purpose of commencing a country-wide educational campaign to inform the public of its views concerning the proposed institution of a compulsory health insurance scheme by the national government. The following objectives have been formulated:

1. To awaken the people to the danger of a politically controlled compulsory health insurance system.
2. To acquaint the people with the superior advantages of American medicine over the government-dominated medical systems of other countries.
3. To stimulate the growth of voluntary health insurance systems and prepaid medi-

cal care plans to take the economic shock out of illness and increase the availability of medical care to the American people.

The need for action is evident, and what means must be developed to accomplish the end sought are matters requiring careful thought and consideration, for the practice of medicine in the United States is approaching a crossroads. There should be a unanimity of support by doctors on the proposal to inform the public of the proposed imposition of a system of compulsory health insurance which elsewhere has been found unsatisfactory and costly. There is a minority in the profession which favors the attempt to foist this scheme on the public, a public which does not appear to appreciate the consequences. Whether the medical care of people beyond certain limits should be a governmental rather than an individual responsibility is a matter which cannot be decided by political measures manipulated by pressure groups. The people themselves must determine whether or not they will subject themselves to centralized, bureaucratic control of a matter which is definitely their personal concern. For this reason, if for no other, it is essential that they be made acquainted with facts, and for this purpose an educational campaign fund is imperative. It must be regarded as a universal contribution in an effort to sustain the American freedom of action. There are ways for the citizens to insure themselves against the costs of illness; these are voluntary, and their growth is a satisfactory demonstration of what can be accomplished through voluntary rather than compulsory procedures.

Every physician in this State should give careful consideration to the proposal announced in the opening paragraph of this editorial . . . It remains an obligation for every physician to support the action of the A. M. A.

NEW CANCER JOURNAL

The American Cancer Society has sponsored the publication of a new journal, dealing exclusively with the subject of cancer. The editor is Dr. Fred W. Stewart of New York, and associated with him are outstanding authorities in the clinical, pathological, radiological, research and educational fields of cancer. This is not just another medical journal but is free from paid advertising,

and every page is devoted to the practical and every day management of cancer.

Three issues have already appeared, and the initial response has been very good, but more subscribers are needed to make the project self-supporting. The Cancer Control Committee of the State Medical Association urges every physician who sees and treats cancer patients to subscribe to this journal for its intrinsic value in his work. Subscription price is \$8.00 per year, and is published by Paul B. Hoeber, 49 East 33 St., New York.

PROGRESS OF VOLUNTARY MEDICAL CARE PLANS

More than 52,000,000 people, or well over one-third of the total population of the United States, are now protected under some form of voluntary hospital expense insurance, while voluntary surgical expense and medical expense insurance plans, newer types of protection, cover approximately 26,000,000 and 9,000,000 respectively.

At the same time, more than 31,000,000 persons, over half the employed civilians in the country, have benefits for loss of income due to disability, the basic type of protection sold by private insurance organizations writing accident and health insurance.

These figures, which represent the number protected at the start of last year, were announced by John H. Miller, chairman of a committee formed by a number of trade associations of insurance companies which has just completed a survey of voluntary accident and health plans in this country. The findings, which are based on a nationwide analysis, represent the first comprehensive survey of such plans, embracing not only those individuals protected by insurance companies but also those covered by the Blue Cross and all the other types of organizations providing this protection.

"These figures demonstrate how extensively the American people have undertaken the job of establishing their own protection, through private channels, against the costs of sickness and accident," Mr. Miller said. "Plans protecting against hospital, surgical and medical expenses have grown up almost entirely in the past ten or twelve years. The growth of these plans has been accelerated since the end of the war, giving promise that much more nearly com-

plete protection for the population will be secured on a voluntary basis in the future. The extent of voluntary coverage and the rapid rate of growth shows that private enterprise is well able to meet the public need for this essential protection although, admittedly, much more remains to be accomplished. Existing coverage extends to all income levels of those regularly employed, often with employer financial support.

Detailed figures on a comparable basis for all the 52,000,000 covered by hospital insurance are not available for all types of coverage for past years, but the number of persons covered for hospitalization under group insurance policies and under Blue Cross plans, the principal types of coverage, is 56% greater than at the end of 1945 and 241% greater than at the end of 1941. Surgical and medical insurance plans have been developed more recently than hospitalization plans and are growing at an even faster rate.

The 31,000,000 persons insured against loss of income due to disability actually represent more nearly complete coverage of this need than does the number insured for hospital expense, since protection against loss of income is needed only by those with earned incomes. The coverage, of course, serves to protect those dependent upon the income producers as well as the individuals insured. This protection against loss of income has been sold by insurance organizations or provided directly by employers for a considerable time but has experienced a greatly increased rate of growth in recent years. "The extent of this protection," Mr. Miller said, "is evidence that in this field also voluntary plans can adequately insure workers against the loss of income due to disability."

The carriers insuring these people against hospitalization expense include: insurance companies and fraternal societies, with an aggregate of nearly 21,000,000 covered; Blue Cross plans and plans sponsored by medical societies, with 28,000,000; plans in the bituminous coal and other industries, private group clinics, university health plans and consumer sponsored groups, with an aggregate of more than 3,000,000.

The surgical benefit plans were written by insurance companies and fraternal societies on more than 15,000,000 persons, with

the other organizations insuring 11,000,000 for these benefits. Medical expense plans were written by the insurance companies and fraternal societies on 2,000,000, by medical societies and Blue Cross affiliates on 3,000,000, and by the other organizations combined on an additional 4,000,000.

Benefits for loss of income due to disability are provided for nearly 19,000,000 by insurance companies and fraternal societies. Another 9,000,000 are protected by paid sick leave programs and over 3,000,000 by mutual benefit associations, union plans and other methods.

The committee which prepared the survey was composed of Mr. Miller, Vice President and Actuary, Monarch Life Insurance Company, Chairman; William H. Burling, Assistant Secretary, Travelers Insurance Company; W. W. Dagneau, Manager, Group Department, Hardware Mutual Casualty Company; Howard H. Hennington, Assistant Actuary, Equitable Life Assurance Society; Frank Lang, Manager, Department of Research, Association of Casualty and Surety Companies; J. E. Taylor, Associate Actuary, National Life and Accident Insurance Company. The survey was prepared for and released by: American Life Convention, American Mutual Alliance, Association of Casualty and Surety Companies, Bureau of Accident and Health Underwriters, Health and Accident Underwriters Conference, Life Insurance Association of America, Life Insurers Conference, and National Fraternal Congress of America.

SMOKING RULED OUT AS SPECIFIC CAUSE OF CANCER OF THE LIP

Smoking can practically be eliminated as a cause of cancer of the lip, two Brooklyn, N. Y., physicians report in *The American Journal of Roentgenology and Radium Therapy*.

"Certainly smoking, which is so frequently ascribed as a causative agent, can be ruled out as so few lesions originate in the female though there has been a great increase in smoking among women in the last generation," the two doctors—William E. Howes and Joseph Rosenstein—write in a recent issue of *The Journal*.

The doctors' article was based on a study of 112 cases of cancer of the lower lip, ad-

mitted for treatment at the Brooklyn Cancer Institute. The study covered a 15-year period from 1930 to 1944. Only two of the 112 patients were women.

"Fully 90 per cent of the men had smoked a pipe, cigars or cigarettes throughout many years. Neither of the two women had used tobacco in any form. Although smoking has increased among women fully 1,000 per cent in the last generation, there has been no corresponding increase in the incidence of lip cancer," the article says, adding:

"In this series, the men were usually of the unskilled laboring class. As a rule, they have worked outdoors during most of their adult life. Their faces and lips have been exposed to sun, wind, sleet and cold. Chapping as a result of exposure is a common occurrence. Theoretically, this repeated chapping, with resultant attempt to repair, sets up an ideal situation purported to favor the origin of cancer."

The two doctors said that ever since the Brooklyn Cancer Institute has been in existence not a single member of the colored race has applied for treatment of cancer of the lip, despite the fact that there is a large Negro population in Brooklyn and fully 10 per cent of all clinic and hospital admissions are of this race.

"Members of the colored race are known to have a high resistance to all forms of skin cancer. Other than the apparent racial resistance to lip cancer in the Negro, no hereditary factors were disclosed," the article states.

For years doctors have been educating the public that successful treatment of any form of cancer depends largely on early diagnosis.

"Cancers arising on the lip are no exception to this rule," the two Brooklyn doctors said. "A lesion on the lip should be obvious to the individual's sense of sight and touch. In spite of the obviousness of any lesion on the lip, the history of duration from the patient's statement in this series varied from one and a half weeks to 20 years. If the patient himself is indifferent, his family, friends and acquaintances cannot fail to observe its presence. The time elapsing between the recognition of the presence of a lesion and the seeking of medical aid averaged 13.7 months."

COURSE IN CHEST DISEASES

The Council on Postgraduate Medical Education of the American College of Chest Physicians and the Laennec Society of Philadelphia announce a postgraduate course in diseases of the chest to be held at the Warwick Hotel, Philadelphia, Pennsylvania, February 28 through March 5, 1949. This course will emphasize the recent developments in all aspects of diagnosis and treatment of diseases of the chest.

The course is open to all physicians, although the number of registrants will be limited. Applications will be accepted in the order in which they are received. The tuition fee is \$50.00.

Application may be made through the Executive Offices of the American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

HAROFÉ HAIVRI

With the appearance of Volume II, 1948, of Harofé Haivri The Hebrew Medical Journal, edited by Moses Einhorn, M. D., concludes its 21st successful year of publication.

In publishing the Journal, the editors aim to meet the need for a medical journal written in Hebrew, with English summaries, thus aiding greatly in the advancement and development of Hebrew medical literature.

This issue contains an article on Hypertensive Vascular Disease by Benjamin Jablons, M. D. There is also a discussion on clinical observations and treatment of 190 cases of Malaria in Palestine, by Dr. P. Ephrati of Tiberias.

In addition, under the heading of "Personalities," biographical sketches of Professor Heinrich Finkelstein, great pediatrician; Professor Max Neuburger, renowned medical historian; and Dr. Solomon Solis-Cohen of Philadelphia are presented.

For further information, communicate with the Editorial Office of The Hebrew Medical Journal, 983 Park Avenue, New York 28, N. Y.

GEORGIA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

The annual meeting of the Georgia Society of Ophthalmology and Otolaryngology will be held at the General Oglethorpe Hotel in Savannah on March 4-5, 1949.

The distinguished lecturers and their tentative subjects are: Dr. Paul A. Chandler of Boston, Glaucoma Management; Dr. Jack S. Guyton of Baltimore, Cataract Management; Dr. Oscar C. E. Hansen-Pruss of Durham, Allergy of the Upper Respiratory Tract; Dr. Marvin F. Jones of New York, Management of Ear Problems in Children and An Otological Survey; Dr. Ralph O. Rychener of Memphis, External Eye Diseases and Dacryocystitis; Dr. Fletcher D. Woodward of Charlottesville, Problems in Laryngology.

AMERICAN ACADEMY OF ALLERGY

The American Academy of Allergy, in cooperation with the University of Georgia, will sponsor an orientation course in allergy from March 7 through March 11, 1949, at the University Medical School in Augusta, Georgia. This course is under the direction of Dr. Leo H. Criepp, assisted by other fellows of the American Academy of Allergy, and a distinguished faculty.

The course is intended for internists and general practitioners, dermatologists, rhinologists and nose and throat men. The course content will be exceedingly practical and directly applicable to the practice of most physicians doing general medicine. It will include lectures and clinical demonstrations on allergens, hay fever, bronchial asthma, diagnosis and treatment, diagnosis, etiology, pathology and immunology of allergy, allergic rhinitis, atopic dermatitis and other significant manifestations in the field.

Enrollment is open to anyone interested and the fee is fifty dollars. Applications and inquiries should be addressed to the Executive Office of The Academy, 208 East Wisconsin Avenue, Milwaukee 2, Wisconsin.

Nonspecific Urinary Infections—The frequency of complications following the use of sulfonamides in the treatment of disease of the urinary tract demands serious consideration. Indiscriminate use of these otherwise useful drugs is a dangerous procedure. Urinary suppression and anuria are not rare and are by far the most serious of the complications encountered. The nonobstructive type of suppression is attributable to a toxic injury of the renal tubules, lower nephron nephrosis. Fortunately, it is rare, as little is known concerning its prevention. We have observed that suppression occurs more frequently in patients who have had previous sulfonamide therapy. This may be due to glomerulonephritis resulting from hypersensitivity to the drug.—*Butt, J. Florida M. A.—Jan. '49.*

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

BUT IT'S INSURANCE

W. A. Dozier, Jr.
Director of Public Relations

Amidst all the hubbub in this country about the proposed extension of social security measures, one is likely to overlook a salient factor that many people are hoping will be forgotten. It is undoubtedly desired by many that, as national compulsory health insurance becomes more widely discussed, the feeling of the people will be, "But it's insurance!"

This article should do two things. First of all there are many people in this country who do not realize that national compulsory health insurance is a form of "state" or "socialized" medicine and that it is merely an opening wedge which can lead to that abominable form of medicine which was found in Germany before the end of the last war. Some pertinent facts need to be pointed out in this respect. The second thing that needs to be handled here is a statement of what will undoubtedly happen to the rest of free enterprise if such a measure as the above insurance were to become law. Far too few people realize the implications behind such a step. But let us take these problems in the order in which they are listed.

The proponents of national compulsory health insurance are using the old ruse of covering up by or with a title. It is a well known fact that we in this country are extremely insurance minded. The size, number and types of insurance companies will attest to that. There must then be a feeling on the part of people at large that insurance is a good thing. On the other hand, however, there are many who object to anything that smacks of an "ism" in our government. State or socialized medicine, when called such, bears too much resemblance to philosophies which are in disrepute in some quarters.

The easiest way, then, to get an idea approved is to call it by a name that is in favor with people and a name that connotes no change from what already exists. One can see just such tactics being used by other countries in international politics, and the same device is being used on this matter of

national compulsory health insurance. State medicine by any other name smells just as foul!

When one reads the proposed compulsory plan, he sees very quickly that it is patterned after the present British system. This system is very readily called "socialized" medicine by people in our country; still the proponents of the proposed American bill refuse to admit its resemblance to state medicine. It is hotly contended that state medicine per se appears only when the physicians are hired, fired, and dictated to by the government. There are, however, more ways of killing than by stabbing with a knife. A slower, a more painful, and—for those concerned, the people and physicians of America—a more devastating death can come through killing the spirit. Once the spirit of free medical practice is killed, a degradation leading to death is sure to ensue.

Let us turn for a minute to the second part of this article—what is in store for other professions and businesses if the present plans become effective?

Only one point needs making, and it can best be stated by quoting from "The Nation's Health—A Ten Year Program" by Mr. Oscar R. Ewing, Federal Security Administrator. In the third paragraph of the foreword to the above report Mr. Ewing says,

"Our standard of living, the conditions under which people live and work, the food they eat—all affect health. In a broader sense, the strains of competitive living, of financial insecurity, of national security and economic conditions, of discriminatory practices and community rancors—all of these—must be ameliorated if we are ultimately to achieve, for everyone, a full measure of abundant mental and physical health."

For those who do not believe that all business and industry are slated for domination, only this question needs to be asked. How will the "strain of competitive living" be ameliorated and still leave any semblance of freedom in our business practice?

Let us not fall into the pattern that is hoped for by some. Instead, let us look behind the verbiage and see just what skeletal form these twisted meanings of words are hung upon.

WOMAN'S AUXILIARY

Mrs. G. G. Woodruff, Anniston, President

ANNISTON UNIT

Contributed by Mrs. E. H. Planck

In 1933 the first meeting of the Woman's Auxiliary to the Calhoun County Medical Society was held at the home of Mrs. T. F. Huey. Mrs. Huey, the first president of the organization, and a committee composed of Mrs. Wade Brannon, Mrs. N. T. Davie and Mrs. W. M. Salter, wrote the Constitution and By-Laws, and all four of these ladies were instrumental in forming the Auxiliary.

The presidents change every two years, and through the years, following Mrs. Huey's able leadership have been: Mrs. W. M. Salter, Mrs. N. T. Davie, Mrs. G. G. Woodruff, Mrs. B. F. Caffey, Mrs. A. E. Culberson, Mrs. Jerre Watson and Mrs. Knox Spearman, who is president at this time.

The policy and efforts of the Auxiliary have always been to aid in public health and public relations. Each year Doctor's Day is observed and a spirit of friendliness and fellowship prevails. Cooperation, both social and business, is the very foundation of the Auxiliary.

The recent threatening menace of Socialized Medicine has alerted the organization, and every effort is being made by this group to acquaint the public in various ways what this can mean in the lives of all people in our country. As a part of this educational program Dr. W. M. Salter spoke before the Auxiliary at its last meeting. His subject was "Public Relations and Public Health," and throughout his talk he stressed that the Woman's Auxiliary could be greatly instrumental in presenting the facts of socialized medicine and explaining in detail what it would mean, pro and con, to the public if it comes to pass.

The Calhoun County Auxiliary is very proud to have Mrs. G. G. Woodruff as president and Mrs. N. T. Davie as secretary of the state organization, and feels they are doing excellent work. It is also proud to have one of its members as Parliamentarian. Mrs. W. M. Salter, with her active experience in auxiliary work, is well equipped for this position, as well as that of Alabama's Coun-

cillor in the Auxiliary to the Southern Medical Association.

Mrs. James Meigs is secretary of the local organization and Mrs. Warren Stough is treasurer.

MONTGOMERY UNIT

Contributed by Mrs. Fred D. Reynolds

Are you the lady who said: "Yes, I'll join the Auxiliary? How much are the dues? Five dollars a year, you say? Oh well, that isn't much. It will put my name in the pot, and I won't be talked about for not joining." If you are, you are the one I want to talk to. You probably also said: "I don't see the need of the organization though; and besides I really have no time to give it. I have my bridge club once a week, my literary club twice a month, my garden club once a month, my P. T. A. work and my church work—not to mention the many jobs I am expected to do because of my association with all the above. How much more time can I take away from my home and family duties? My husband says: None. He says I am running myself ragged now, and he knows. He is a doctor. I really must drop something, but what?"

Yes, this question is popping up in many of our minds. We are all busy, too busy, and none of us wants to minimize the good we get from any of the contacts we have already made. We love them all, and that we should.

Let's get back to the main issue at stake, though. "I did join the Auxiliary, and I should find out what it is all about, so let's have no more of my alibis for why I can't attend. Everyone knows a person can find time to do what he really wants to do. How can I know I am not interested in the work the Auxiliary is trying to do if I don't attend the meetings, and how can the Auxiliary accomplish what it should if I am one of those not interested, because I won't give myself a chance to be? The Auxiliary must really be very important. After all it isn't just a local organization. It is national." Why? Because there is a definite need for the or-

ganization to work hand in hand with Medical Societies for their betterment in every way.

Yes, right about here you are saying: "My husband doesn't seem to think it is so important. Why should I?" Well, ask yourself this question: "Is my husband much interested in his County Medical Society either?" I'll bet the answer will be no, but he has a good reason, you will say. He is so busy treating the sick. That's wonderful. It's a grand profession, giving relief to the suffering. But, ladies, the time has come when he and we must realize there is an undercurrent that is threatening to undermine our very homes. Will we like this when it happens? I'll tell you we won't, and it is not the American way to allow it to happen.

Now comes the important question: "What can we do about it?" I'll say we can do nothing, if we don't try. Nothing, if we don't unite to work together. The time has come when we can't leave our battle for someone else to fight. The Auxiliary and the Medical Society must be united to work together. It is our only way. These organizations belong to us, and, if we don't believe in them, can we expect others to believe in what we stand for?

Yes, ladies, we have a lot of friends in our

clubs and organizations, and because we are who we are, the wives of doctors, they look to us for guidance. Let's begin now to educate ourselves so that our guidance will be worth following, and our talk worth listening to. Let's know the answers to all the vital questions coming up today. The purpose of the Auxiliary is to help you do just this. Let's make our duty to our Auxiliary of first consideration in our daily lives. Let's make our contacts such that will bring credit to our husbands, ourselves and our Auxiliary. The best and most satisfying work we can do is to further better health, not only in our homes and communities but in our country and the world, for without health life can be mighty dreary for the young and old, the rich and poor alike all over the world.

Our State Medical Association and its Public Relations Department are working hand in hand with the American Medical Association, and we must stand firmly behind them. It is costing much in time and money, but it is worth it all to protect the American Way of Life. Throughout the history of our very existence, we have fought when our freedoms have been threatened, and we will continue to do so. We shall remain American, "The Land of the Free and the Home of the Brave."

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

D. G. Gill, M. D.
State Health Officer

PHYSICIANS PLAY GREATER ROLE IN CAUSE-OF-DEATH REPORTING

Each time a physician completes the cause-of-death statement on a death certificate he is furnishing basic information which eventually yields our mortality statistics. These statistics are only as accurate as the original medical certifications.

Under a new procedure and revised form of medical certificate which went into effect on January 1, 1949, the judgment of the attending physician who makes the Medical Certification on the death certificate will, in effect, determine the cause of death for statistical tabulations. Previously, the selection of a primary cause of death has depended upon prescribed rules which gave varying

weights to different diseases. Since these rules are no longer used, it is especially important that physicians use great care in recording the cause of death.

The new form of Medical Certification on the death certificate is not changed fundamentally from the form which has been used since 1940. The chief differences are a clearer separation of the cause-of-death statement into parts I and II and the inclusion of more specific explanations for each part.

Part I is used to report the disease, or sequence of disease conditions which directly leads to death. It should be noted that when a related sequence of morbid conditions is involved the disease or conditions *last* occurring should be stated *first* on line (a). This entry should be followed by the antecedent causes, if any, and these should be entered on lines (b) and (c). Thus, the

last condition stated in Part I will be the underlying cause of death which started the train of events leading to death. It may be necessary to complete only line (a), as, for example, in a death from pulmonary tuberculosis with no complicating factors. It may be necessary to complete only lines (a) and (b), as in a death from uremia which developed as a result of a chronic nephritis, in which case the uremia will be entered in (a) and the chronic nephritis in (b). In another instance, also involving uremia which ensued from an acute nephritis following scarlet fever, the uremia will again appear in (a), the acute nephritis in (b), while scarlet fever will be entered in line (c).

Part II of the Medical Certification should be used to cite any other significant conditions which unfavorably influence the course of the morbid process and thus contribute to death, but which are not a part of the sequence of disease conditions directly causing death. It is most important, however, for physicians to remember that the mention of a condition in Part II will be taken to indicate the physician's opinion that it is secondary in nature, regardless of the severity with which it may generally be associated. For example, citing a cancerous condition or diabetes mellitus in Part II will indicate to the nosologist that the disease or sequence of related conditions stated in Part I was, in the attending physician's opinion, of more importance in causing death at that particular time than the malignancy or diabetes. Consequently, the death, in tabulation of primary causes, will be ascribed to the condition stated in Part I and not to cancer or diabetes.

It will be obvious, even from this short discussion, that the validity of future mortality statistics will depend to an even larger measure than in the past upon the care used by physicians in stating the cause of death. Mortality statistics have often been criticized as not representing the medical opinion of attending physicians. Consequently, the system of reporting now to be used presents a challenge to each physician to play an important part in eliminating this criticism. He can do this by providing the Department of Health with the facts as only the attending physician can know them.

BUREAU OF LABORATORIES

H. P. Sawyer, M. D., Director

SPECIMENS EXAMINED

NOVEMBER 1948

Examinations for diphtheria bacilli and Vincent's	837
Agglutination tests (typhoid, Brill's and undulant fever)	841
Typhoid cultures (blood, feces and urine) ..	371
Examinations for malaria	338
Examinations for intestinal parasites	3,288
Serologic tests for syphilis (blood and spinal fluids)	25,509
Darkfield examinations	17
Examinations for gonococci	2,175
Examinations for tubercle bacilli	2,410
Examinations for meningococci	0
Examinations for Negri bodies (microscopic)	96
Water examinations	1,334
Milk and dairy products examinations	3,742
Miscellaneous	585
Total	41,543

BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

1948

	Oct.	Nov.	E. E.* Nov.
Typhoid	5	6	5
Typhus	15	13	37
Malaria	21	10	163
Smallpox	0	0	0
Measles	70	135	25
Scarlet fever	131	96	128
Whooping cough	27	21	67
Diphtheria	201	110	93
Influenza	56	55	215
Mumps	33	22	37
Poliomyelitis	33	5	4
Encephalitis	0	0	0
Chickenpox	13	128	65
Tetanus	4	4	4
Tuberculosis	255	227	207
Pellagra	0	1	6
Meningitis	5	11	6
Pneumonia	102	108	191
Syphilis	1226	639	1315
Chancroid	14	9	13
Gonorrhea	562	367	478
Tularemia	0	4	0
Undulant fever	2	3	3
Amebic dysentery	0	2	1
Cancer	359	319	0
Rabies—Human cases	0	0	0
Positive animal heads	25	20	0

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

In uncovering tuberculosis in our schools, it is generally agreed that the tuberculin test is a superior case-finding method in the lower grades. The incidence of tuberculosis in younger children is very small, and (the cases) are mostly acute forms of the disease which would not be discovered by an x-ray survey. A tuberculin test points out the existence of an infection which the x-ray alone cannot show, at least in most of the cases.—Dan Morse, M. D., NTA Bull., Dec. 1948.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS FOR OCTOBER 1948, WITH COMPARATIVE RATES

Live Births, Stillbirths, and Deaths by Cause	Number Registered During Oct. 1948			Rate* (Annual Basis)		
	Total	White	Colored	1948	1947	1946
Total live births	7048	**	**	27.4	29.5	30.9
Total stillbirths	187	**	**	25.8	26.9	27.3
Deaths (exclusive of stillbirths)	2187	1306	881	8.5	8.2	7.7
Infant deaths:						
under one year	236	131	105	33.5	35.6	29.2
under one month	164	101	63	23.3	25.6	21.0
Deaths by Cause						
Cerebrospinal meningitis 6						0.4
Scarlet fever 8	1	1		0.4		
Whooping cough 9	1		1	0.4	2.3	0.4
Diphtheria 10	10	8	2	3.9	1.9	1.6
Tuberculosis, all forms 13-22	90	46	44	34.9	35.7	30.6
Malaria 28					0.4	2.0
Syphilis 30	23	6	17	8.9	7.0	8.6
Influenza 33	9	3	6	3.5	3.9	4.3
Poliomyelitis 36	2	2		0.8		1.2
Encephalitis 37					0.4	
Typhus fever 39						1.2
Cancer, all forms 45-55	219	151	68	85.0	74.1	78.4
Rheumatic fever 58	6		6	2.3	***	***
Diabetes mellitus 61	41	27	14	15.9	14.7	12.9
Pellagra 69	4	1	3	1.6	1.9	2.4
Alcoholism 77	2	2		0.8	1.2	0.8
Intracranial lesions 83	254	141	113	98.6	89.3	77.3
Other diseases of nervous system 80-82, 84-89	13	7	6	5.0	***	***
Diseases of the heart 90-95	578	380	198	224.3	177.0	169.8
Diseases of the arteries 96-99	26	18	8	10.1	7.8	7.8
Other diseases of circulatory system 100-103	11	4	7	4.3	***	***
Bronchitis 106	6	4	2	2.3	1.6	1.2
Pneumonia, all forms 107-109	62	28	34	24.1	30.7	31.8
Diarrhea and enteritis, under 2 years 119	14	9	5	5.4	2.3	4.3
Diarrhea and enteritis, 2 years and over 120	2	2		0.8	0.8	0.8
Appendicitis 121	7	5	2	2.7	3.1	2.0
Hernia and intestinal obstruction 122	7	5	2	2.7	7.4	2.7
Cirrhosis of the liver 124	18	13	5	7.0	5.8	3.9
Nephritis, all forms 130-132	128	69	59	49.7	59.4	51.8
Other diseases of the genito-urinary system 133-139	24	14	10	9.3	***	***
Diseases of pregnancy and childbirth 140-150	10	2	8	13.8	26.9	18.5
Puerperal septicemia 140, 142a, 147	4	1	3	5.5	9.0	8.6
Congenital malformations 157	23	19	4	3.3	***	***
Suicide 163, 164	12	8	4	4.7	7.8	7.8
Homicide 165-168	36	9	27	14.0	19.8	13.7
Accidental deaths 169-195	169	112	57	65.6	66.0	63.5
Motor vehicle accidents 170	62	43	19	24.1	26.0	25.5
All other defined causes	247	163	84	95.8	138.1	128.6
Ill-defined and unknown causes 199,200	132	47	85	51.2	47.3	53.7

*Birth and death rates per 1,000 population; infant death rate per 1,000 live births; stillbirths per 1,000 total births (stillbirths included); specific causes per 100,000 population; puerperal causes per 10,000 total births. All rates are based upon the October report of the years specified.

** Not available.

***Included with "All other defined causes" in 1946 and 1947.

BUREAU OF SANITATION

Arthur N. Beck, M. S. in S. E., Director

EFFECTIVENESS OF THE 1948 DDT HOUSE SPRAY PROGRAM AS SHOWN BY ENTOMOLOGICAL INSPECTIONS

Contributed by

C. P. Owens, B. S. in C. E.

O. V. Lopp, M. S. in Entomology

W. H. Gilmore, B. S. in C. E.

During the summer of 1948 there was world-wide discussion relative to the effectiveness of DDT. There are a number of possible causes of complaints, of which, it is believed, the following are probably the most contributory: (1) attempted substitution of DDT for sanitation, (2) difference in fly population trends from year to year, (3) popular misconception as to what spray treatments should be expected to accomplish, (4) present malaria control spraying procedures are not designed for fly control, (5) psychological factors, (6) variation of dosage applied, (7) attitude of spray crews, and (8) some possible inherited resistance of flies. In many instances, no doubt, the complaint can be attributed to a combination of several of the above listed factors. Practically every complaint was based on alleged failure to control house flies.

In this connection there follows a portion of a report relative to the 1948 spray program. It is thought that the figures and data contained indicate definitely that DDT is still effective. There is no doubt that it is the best insecticide yet developed for the control of most household pests.

COMPLAINTS

Alabama had its share of complaints and rumors that the DDT used during the 1948 season was no good. The widely disseminated publicity regarding the development of DDT resistant flies is believed to have been responsible to some extent for the complaints. Investigations showed that many of the complaints reaching the health departments were unjustified. It is known, however, that there were more flies in sprayed houses during the season than in previous seasons since DDT became available. Investigations also showed that there were many more flies in the unsprayed areas than in the two previous seasons.

A typical example of the investigations of complaints in Alabama is given: At the re-

quest of the health officer of one county, five complaints on record were looked into. Two of the houses had no flies at the time of investigation. One house had three flies and another six. The fifth house had fourteen foot ceilings which were not sprayed. There were barns, pig pens and a chicken house on the premises which provided breeding places for flies. Forty flies were counted in this house.

It is believed that the DDT spray was effective this year and that the large number of flies found were in most cases due to an unusually heavy fly breeding season.

Because of the number of complaints an attempt was made to intensify the inspection program during the 1948 season.

RESULTS OF PREMISE INSPECTIONS

The inspection program in the State was divided into two phases. One was the inspection of a representative number of premises sprayed in the Residual House Spraying Program, plus a smaller number of unsprayed control premises. The other phase of the inspection program dealt with periodic reinspections of selected premises in four cities, two of which were sprayed. In all inspections, records were made of the numbers of mosquitoes and flies observed.

INSPECTION OF RESIDUAL HOUSE SPRAY PROGRAM

During the season of June 1 to October 15, 1,429 inspections were made of sprayed houses. It is highly significant that only one *Anopheles quadrimaculatus* mosquito was found in a sprayed house. It was noted that this mosquito was resting on clothing which had not been sprayed. This is especially noteworthy since, in many instances, barns, chicken houses and other natural resting places on the premises would be sheltering hundreds of these mosquitoes at the time of inspection.

A comparison of the number of flies in sprayed houses in relation to the flies in unsprayed houses was obtained by tabulating the premise counts so that houses having varying fly counts fall into selected fly population groups. The following table summarizes, for comparative purposes, the results of the fly counts for the 1948 season Residual House Spray Program:

A total of 1,698 houses were inspected, of which 1,429 had been sprayed and 269 were unsprayed.

No. Flies In House	0		1-10		11-30		31-50	
	No. Houses	%	No. Houses	%	No. Houses	%	No. Houses	%
Sprayed Houses	134	9.4	694	48.6	371	26.0	127	8.9
Unsprayed Houses	2	0.7	20	7.5	63	23.5	62	23.0

No. Flies in House	51-75		76-100		101-Up	
	No. Houses	%	No. Houses	%	No. Houses	%
Sprayed Houses	47	3.3	26	1.8	30	2.1
Unsprayed Houses	26	9.7	30	11.2	65	24.2

The above table indicates that 58.0% of the sprayed houses had ten flies or less at the time of inspection, while only 8.2% of the unsprayed houses fell into this group. Eighty-four per cent of the sprayed houses had thirty flies or less and 92.9% had less than fifty flies. Of the unsprayed houses 31.7% had less than thirty flies and only 54.7% had less than fifty flies.

CITY INSPECTIONS

Periodic reinspections of selected premises were made in two large cities, one sprayed and the other unsprayed, and also in two small cities, one sprayed and the other unsprayed. Selma, with a population of 18,834, was chosen as the large unsprayed city. In a similar manner, Tuskegee, population 3,937, was selected as the small sprayed city, and Greenville, population 5,075, was selected as the small unsprayed city. (Population figures are from the 1940 census.)

The spray used in the two sprayed cities was 5% DDT, applied at the rate of 200 mg. per square foot on the walls and ceilings and under the porches. Spraying was completed in Selma on about June 15, and in Tuskegee on about July 15. In all cases the houses selected for inspection were those to which flies and mosquitoes had easy access. Fly counts given are for the one room having the highest number of flies.

The following tables summarize for comparison the results of the inspections made during the 1948 insect season:

Selma—(Large Sprayed City)

Date Inspected	Number of Houses Inspected	Average Number of Flies Per High Count Room
6/22	9	4.6
7/23	9	19.2
8/10	10	10.5
9/30	9	20.0
10/29	10	5.7

Season Average..... 12.0

Tuscaloosa—(Large Unsprayed City)

Date Inspected	Number of Houses Inspected	Average Number of Flies Per High Count Room
6/30	12	106.2
8/11	12	36.0
9/30	12	33.0
10/28	12	32.0
Season Average		51.8

Tuskegee—(Small Sprayed City)

Date Inspected	Number of Houses Inspected	Average Number of Flies Per High Count Room
7/21	10	16.1
8/12	10	14.5
9/24	10	9.4
10/29	10	2.1
Season Average		10.5

Greenville—(Small Unsprayed City)

Date Inspected	Number of Houses Inspected	Average Number of Flies Per High Count Room
7/22	10	144.0
8/13	10	119.5
9/29	11	78.3
10/28	11	68.7
Season Average		102.6

In 1947 the same houses in Tuskegee were inspected five times during the season. The average number of flies found was 5.3 per house as compared to 10.5 high room count in 1948.

No *Anopheles quadrimaculatus* mosquitoes were found in any of the inspected houses in any of the cities, and no culicine mosquitoes were found in any of the sprayed houses inspected. Culicine mosquitoes were observed on sixteen inspections out of a total of ninety inspections in unsprayed city houses.

AMERICAN MEDICAL ASSOCIATION NEWS

SURGERY CORRECTS HEART ABNORMALITY

Babies born with the dangerous heart abnormality, coarctation of the aorta, now have a better chance for a normal life.

Successful surgery for the condition is reported in a recent issue of The Journal of the American Medical Association by Robert E. Gross, M. D., of the Department of Surgery of the Harvard Medical School and the Surgical Services of the Children's Hospital and Peter Bent Brigham Hospital, Boston.

Dr. Gross has pioneered in the development of surgery for congenital disease of the heart and blood vessels.

Coarctation of the aorta is a narrowing or constriction of the large vessel leading directly from the heart and supplying blood to lower parts of the body. The tubelike artery is greatly obstructed in some cases.

Persons with the condition may die in their twenties or thirties from rupture of the vessel or from high blood pressure caused by the obstruction, or may suffer moderate disability, although some live to old age without noticeable symptoms.

Surgery for coarctation of the aorta was performed on 60 patients, Dr. Gross says,

with a mortality rate of seven out of the group. Experience gained in these cases is expected to enable surgeons to obtain lower mortality rates in future operations.

The abnormality is corrected by removing a portion of aorta containing the obstruction and bringing the vessel ends together, Dr. Gross indicates.

A graft from the aorta of another person was used in one case, that of a seven year old child. After removal of the obstructed section of artery, the gap left was too large to close by bringing the ends together. A section of aorta which had been preserved 30 days was sutured into place to fill the gap. This gap was nearly two inches long.

The boy was discharged a month after the operation, seemingly in excellent health, and postoperative studies indicate that the surgery was highly successful.

Concerning the use as living tissue of artery sections that have been outside the body for a month or more and experimental work on such grafts in dogs, Dr. Gross says:

"In a few cases (of surgery on patients in the study) when a relatively long aortic segment was removed, there was great diffi-

culty in getting the ends of the aorta together because of great tension in the aorta.

"Finally, in several other operations an insufficient amount of narrowed aorta was cut out, because of the fear that removal of more vessel would lead to insurmountable difficulties in getting the remaining ends of aorta together. This meant that much of the obstruction was removed but that a lumen of ideal size was not created.

"These three sets of circumstances have long made it evident that surgical treatment for coarctation would receive great impetus if it were always possible to remove an entire constricted area and to bridge the gap thus made by a graft or transplant.

"Obviously there is no other vessel in the body which is large enough to supply a segment for filling in an aortic gap. If grafting is to be done, the graft must come from some other person who has died in an accident or after some nonseptic disease.

"Experimental work on dogs seems to indicate that if arteries can be obtained within four or five hours after death they can be transferred to (another) animal with an excellent chance of survival. Methods have been devised whereby grafts can be preserved for periods as long as 35 to 40 days before being implanted into animals. Studies show that vessels preserved in the manner employed are viable for as long as 35 or 40 days."

Six or eight years should probably be the minimum age at which surgery for coarctation of the aorta is performed on children, unless there are specific reasons for earlier operation, Dr. Gross says.

FAULTY EATING HABITS CAUSE OF HEARTBURN

Heartburn, the burning discomfort associated with digestive upsets, is often caused by faulty eating habits and emotional disturbance and tension, say two Philadelphia doctors.

Writing in a recent issue of *The Journal of the American Medical Association*, Henry J. Tumen, M. D., and Edwin M. Cohn, M. D., of the Graduate School of Medicine, University of Pennsylvania, and the Jewish Hospital, point out that heartburn is not a symptom of ulcer or "overacidity" of the digestive system.

Nearly three fourths of the 46 patients treated for heartburn by the doctors found

that the discomfort was worse during periods of emotional strain. Thirty-four of the group were substantially improved by a program of education in eating habits and discussion of emotional and personality problems.

Patients were advised to eat slowly and at properly spaced meals and to avoid the habits of getting most of the day's food at one large meal, drinking excessive fluids with meals, and eating foods that seemed to cause heartburn.

Although foods described by patients as causing the condition were mostly fats, sweets, and spices, the specific foods to be avoided vary with the individual, the doctors emphasize. Coffee, onions, cabbage, and chocolate were found to be outstanding examples of such specific foods.

Swallowing air in drinking carbonated beverages or in chewing gum may be a contributing factor to heartburn, the article suggests.

STUDY DYE FOR USE AGAINST BLEEDING IN THROMBOPENIA

Toluidine blue, a dye used to combat bleeding from overexposure to radiation, is valuable in treating selected cases of the blood condition thrombopenia, say three doctors from the Shreveport, La., Charity Hospital.

In thrombopenia there is a decrease in platelets, colorless cells in the blood that help in forming blood clots, and bleeding from tiny blood vessels may result.

Writing in a recent issue of *The Journal of the American Medical Association*, J. E. Holoubek, M. D., a fellow of the American College of Physicians, J. V. Hendrick, M. D., and W. J. Hollis, M. D., describe a trial of the dye on three patients suffering from bleeding associated with thrombopenia.

One of the patients, apparently dying despite repeated blood transfusions, recovered dramatically and was discharged from the hospital as cured.

Even though the dye did not save the lives of the two other patients, it stopped bleeding in one, the doctors say. Its complete failure in one case may be explained by the absence of anticoagulant substances in the patient's blood, they suggest. Research indicates that toluidine blue makes at least one such substance inactive.

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THE FUTURE OF ISOTOPES IN MEDICINE AND SURGERY

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The implementation of a new potential force has been given to the world by the scientists, the alchemists and the physicists. Not since the great mystery of the discovery of the source of energy of the sun has there been such a challenge thrown out to mankind as the discovery of atomic energy with all of its subphases of development.

In every corner of the land, in every country on the globe, men begin to sense the magnitude of this challenge made by the new force. Deeper and deeper into the very nature of Nature itself, the scientist has peered, until finally he has reached the point where he is now dealing with things so small as to be indiscernible.

For many years the scientists have believed that an unknown form of energy was locked in the atom, that if this energy could be unleashed, man would have power which he had never known before. This power has now been found. The atom, heretofore recognized as indivisible, has been split, and the world stands at the threshold of a future no one can foresee.

This we know. There shall either be order or chaos, as we control it. It is true, perhaps, that the culmination of this unusual form of energy, worse than power, was developed for the destruction of man and termination of war; but this force cannot lie

dormant and its potentialities are found in opportunities to harness and make this force do the bidding of humanity. Therefore, we recognize the power of atomic energy and its benefits as well as its power to destroy mankind.

The potency of this tremendous power was made known to the world on August 6, 1945 when an American airplane dropped an atomic bomb on Hiroshima, Japan, which is reliably reported to have had more power than twenty thousand tons of TNT. The force and power of this bomb was so intense as to completely wipe out 4.1 square miles or sixty per cent of the city of Hiroshima, said to have had a population of 343,000 persons.

There were 150 physicians in Hiroshima at the time the atomic bomb fell. Sixty-five of them were killed and most of the remainder so badly injured that they could render no service to other injured people. There were 1,780 nurses, 1,654 of whom were killed or too badly injured to do any work.

General Groves, Commander of the Manhattan Project, including the development at Oak Ridge, Tennessee, indicated that for every atomic bomb dropped on Hiroshima and Nagasaka an average of 68,000 people were killed and 90,000 injured. In other words, the atomic bomb is estimated to have killed at least 200,000 people of the city of Hiroshima and completely pulverized the buildings in from one-third to one-half of the city's area. This serious news was flashed over the wires to the remotest corners of the

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world and culminated the Japanese-American War at once. But it caused a thinking world to realize that a weapon had been developed which was potentially destructive beyond the most extravagant speculations, and that the world must realize civilization is now standing in the twilight zone between a possible Utopia and ultimate destruction on a wholesale and even planetary level.

To the military and diplomatic corps of our world came the sudden realization that science had torn from Nature a secret so vast in its potentialities that our minds cower from the terror it creates, and that we must elect to live in a world of peace or endure the horrible experience of world destruction. Science gave this to us as a great destructive power but at the same time indicates that it can become a great constructive help to humanity. It can truly become capable of unraveling the very fabric of our civilization or susceptible of development as a mighty force for human welfare.

We have proved the destructive use of this force, but the constructive applications are still within the realm of speculation. Scientists are kind enough to say that the exploitation of atomic energy as a tool for research will outweigh the benefits to be derived from its availability as a source of power. They venture the hope that perhaps the greatest benefit of this program might lie in therapy for some of the neoplastic diseases, for the increased understanding of the biologic systems in a field of endeavor which is already making rapid strides. It is not within the province of this paper to delve into the mysteries of atomic energy or even its potentialities for future use, but rather to call attention to the fact that medical men were among the first users of atomic energy and have sought from every available standpoint new uses, both in the field of diagnosis and therapy.

The atom, long thought to be the ultimate in matter, is our chief consideration in this discussion. As a basis for our thinking, may we consider that the outside part of the atom is the source of our chemical energy and that within the atom, from a point known as the nucleus, will come nuclear energy. The material of which this nucleus is built contains all the actual mass or weight that is in the atom and contains it in a million of a billionth of the atom's volume. So it

must be a million billion times as dense as the material which we call matter. Such astronomical thinking to us is absolutely inconceivable.

In 1939 the nucleus was split wide open and in retrospect we recognize this as perhaps one of the most important events of the century. The atomic bomb is one of its consequences. The radioactive isotopes for research and therapy are another.

To date there have been more than 375 radioactive isotopes of the common chemical elements produced experimentally by nuclear bombardment. Isotopes have been made of every known stable chemical element, many of which have proved useful in biologic and medical experimentation, particularly as tracers for study of metabolism of the various elements of living organisms. Still others have proved useful as a means of administering localized, internal radiation therapy. Radioactive isotopes have been used experimentally in more than seven hundred projects related to biology and medicine.

Nearly all of the artificially radioactive isotopes used in medical experiments emit beta rays. There are some which emit gamma rays, and therefore, from the medicophysics standpoint, our study will be centered primarily around a consideration of beta rays and gamma rays.

Of the some one hundred isotopes which have been produced in the American atomic plant, the atoms of such isotopes are chemically indistinguishable from the normal atoms of the elements, but because of their radioactive decay, they can be detected even when present in infinitesimal amounts without disturbing their surroundings. Therefrom comes the value of the isotope which can be traced by an instrument known as the Geiger counter. For example, after a mixture of potassium iodide and water has been imbibed, on passing the Geiger counter over the various portions of the body, one will soon note that the greatest amount of the iodine has concentrated in the thyroid gland.

While medicine has a great opportunity to expand the facilities of diagnosis and therapy with use of radioactive isotopes, there are other techniques which have applications in the fields of biology, chemistry, physics, metallurgy, agriculture, bacteriolo-

gy and still other sciences. Radioactive iron has been used to study the production of red blood cells in the treatment of anemia. More recently it has been interesting to note that penicillin, sulfa drugs and the vitamins have all been tagged and traced through the body.

The isotopes which have been used to the greatest advantage thus far have been iodine in the treatment of cancer of the thyroid, phosphorus for polycythemia vera and radioactive gold for leukemia and the lymphomas.

USES OF RADIOACTIVE PHOSPHORUS

About one year ago scientists gave to the profession a report on one hundred collected patients treated with radioactive phosphorus. By and large the greatest benefit received by any of these patients was in those suffering from polycythemia rubra vera. I have had a personal observation in one of my own patients with the use of radioactive phosphorus in this condition. He has now been under the treatment some twelve months and for the last four months has been stabilized with a normal red count as well as hemoglobin and white count. He has gained weight, he is exceedingly well, and hemorrhages from the mucosa have disappeared. I have another patient undergoing a similar treatment at the present time who also shows marked improvement.

I am thoroughly convinced of the efficacy of radioactive phosphorus in polycythemia vera.

Radiophosphorus has given great hope to patients suffering from cancer of the blood, leukemia. It may be too much to ever expect this new form of treatment to prolong life or cure leukemic patients; but, from the information available to us, it certainly reduces the suffering and makes their days more bearable, and at the same time spares them the nausea and discomfort which is noted following x-ray treatment.

Radioactive phosphorus is a valuable adjunct to treatment in certain of the more chronic leukemic stages, particularly in those individuals who are intolerant or resistant to roentgen radiation. Disappointment comes in the amelioration of symptoms in the *acute* leukemias, but all too infrequently the radioactive phosphorus has appeared to accentuate the clinical acuteness of the leukemic process. Thus far it has not proved permanently beneficial.

Lawrence and his associates report 129 cases of chronic myelogenous leukemia treated with radioactive phosphorus. The incentive to use phosphorus in this treatment came from a twenty years' experience of good results from roentgen irradiation in this disease.

Radioactive phosphorus P32 in the form of isotonic sodium monohydrogen phosphate was used. The dosage varied from one to two millicuries once or twice a week up to a total of forty millicuries administered intravenously over a period of seventy-two days. The response to the treatment was extremely wide and varied. While life was made much more comfortable in these individuals, the actual duration of years was not increased beyond that noted by roentgen ray therapy. There was, however, an absence of radiation sickness, which is an advantage.

Conclusions arrived at by Lawrence and his workers were that perhaps radioactive phosphorus is the best known therapeutic agent for chronic myelogenous leukemia, but does in no sense cure the disease or, in many instances, completely control it.

Radioactive phosphorus has failed to control Hodgkin's syndrome and may, on the contrary, threaten the integrity of the bone marrow unless great care and discretion are observed in the dosage used. The deep bone pain which characterizes metastasis to bone may be relieved by radioactive phosphorus. Evidence as to specific retardation of the lesions remains to be seen. The pruritis which is secondary to leukemia, polycythemia rubra and exfoliative dermatitis has been effectively controlled by radioactive phosphorus in selected instances.

It must be emphasized that the efficacy of this treatment depends upon selective destruction of cells. There is a wide variance in individual susceptibility and tissue response. Extreme care in administering internal radiation is essential. The experience of those who have used considerable radiophosphorus suggests that the doses be well spaced with frequent and complete blood and bone marrow studies to insure the integrity of normal hematopoiesis while the treatment is being carried out.

Phosphorus 32 has proven itself of much scientific value in the diagnosis of multiple myelomas and lymphosarcoma in addition

to its value in leukemia and polycythemia. The treatment of these bizarre conditions, while yet unproven, may be markedly influenced by radioactive phosphorus. It offers much to the physiologist in the studies of vascular supply to the heart and kidneys, the anterior pituitary growth hormone; and to the metabolic implications of nutrition in relation to bones, teeth, et cetera.

RADIOACTIVE IODINE IN THYROID GLAND

First may I emphasize that to treat patients with toxic goiters satisfactorily with radioactive iodine, there must be an adequate equipment for measuring the dose administered, the amount of material taken up by the thyroid gland, and the rate at which it disappears. Such an outfit is expensive and this may well explain why radioactive iodine has been used in only a few clinics up to the present time.

All radioactive material has to be handled with the greatest of care because of serious consequences which may follow overexposure by the powerful rays emitted, not only to the patient and to the physician but to the personnel as well.

The treatment of cancer of the thyroid gland by radioactive iodine is a possibility which has been hailed with great enthusiasm because of the humane application of some of the by-products resulting from the manufacture of atomic bombs. Experiments of Marinelli, Foote, Hill and Hocker, in an effort to correlate the pick-up of radioactive iodine with the histologic type of the thyroid tumor, note that detectable depositions of radioactive iodine were found in only fifteen per cent of the thyroid cancers. The deposit of iodine was greatest in metastasizing goiters and least in the more anaplastic types of solid carcinoma.

If therapeutic successes are to increase, some process must be discovered by which the uptake of iodine in the less differentiated tumors of the thyroid may be done. Radioactive iodine has produced beneficial results in hyperthyroidism and postoperative hyperthyroid recurrence, but it has not been generally effective for cancer of the thyroid from the standpoint of therapy.

TRACER VALUE OF RADIOISOTOPES

The tracer value of radioisotopes promises an extension of knowledge in many fields of medicine. The benefits to human welfare

which may be gained from the use of radioisotopes in tracer studies will probably exceed that which may be derived from all other sources of radioisotopes. Among the items already labeled and traced by these techniques are proteins, carbohydrates and fats, alcohol, amino acids, bile salts, fatty acids and nucleic acids, bacteria and viruses.

Radioisotopic use is not well established in the field of medical therapy. The optimistic physician may well be enthusiastic about the possession of these highly effective forms of radioisotope therapy, but it is entirely too early to say more than that radiophosphorus has been used rather successfully to treat patients with polycythemia vera and has also been helpful in individual cases of chronic leukemia.

Radioiodine perhaps has the widest field of usefulness both in the study of thyroid disease and in the metabolism of the thyroid gland. It has been used to treat patients with thyrotoxicosis and also those suffering from metastatic carcinoma of the thyroid gland. In this latter it has been particularly unique and perhaps life saving. It certainly has diagnostic value in thyroid disorders. Radioactive iodine is being used with much promise, not only in most all of the disorders of the thyroid gland but also in diagnosis of brain tumors, in physiology of the liver and gallbladder functions and the parenchymatous function of the kidney, with especial reference to elimination.

Radiogold has been used in the treatment of patients with lymphoid malignancies and radiosodium has been used with reported benefit in leukemias. Beta ray applicators have been used for treatment of local lesions. Radiocarbon is being used to study the mechanism of both carbohydrates and protein metabolism. This isotope definitely presents a hazard to workers who may inhale the radioactive CO_2 exhaled by the laboratory animals to which radioactive material has been administered. Radiophosphorus and radiocalcium are being used to study bone and tooth formation, and, in addition to this, the radioactive calcium has shown diagnostic value in hyper- and hypothyroidism, in eclampsia determinations, and in nerve, skin and muscle absorption. Radiosodium is being used to study blood functions as well.

SCIENTIFIC HANDLING OF RADIOACTIVE SUBSTANCES

In conversation with many of the scientists at the Oak Ridge Laboratories, I have been made deeply cognizant of the grave danger to personnel who handle these radioactive materials. Exposure to radioactivity is a peculiarly hazardous danger to human beings because nothing is seen or felt at the moment of exposure, and effects may not be noted for weeks or even months. The effects of these materials are cumulative in the body so that, while no danger is noticed at the time, serious consequences may appear weeks, months or even years later.

A word of caution is timely for the use of radio elements and radioactive compounds within the human body. Grave and disastrous effects may result from these experiments and under no circumstances should they be used except by one who is well qualified and properly trained in the field of physics and radioisotope administration.

There is the question, too, of the tolerance dose for patients and for the exposure danger of those who work with the medicines and the patients. For instance, in patients who may be using radioactive medicines in solution, the excess of which may be thrown into the sink, serious trouble can happen in this way as well as in the handling of excreta of both urine and feces of patients who have been taking radioactive substances.

I am convinced that no clinic or hospital or medical school should attempt to use any of these radioactive isotopes unless and until they are thoroughly equipped with the proper screening construction and unless they have in charge of the project a well trained physicist, a biochemist or both.

There are many things to know about radioisotopes. They are decidedly unstable, and as a result of that instability they give off radiations of alpha, beta and gamma type neutrons. The bulk of the radioactive isotopes which have been found useful up to the present time give off either beta or gamma radiations. These are not given off all at once, but are liberated in orderly fashion, each isotope having a characteristic and unchanging rate of emission.

It is convenient to consider the isotopes from the standpoint of the half life or point at which fifty per cent of the material has delivered its radioactivity and become inert.

A substance that has too short a half life cannot be worked with effectively. One that has too long a half life either will not deliver its radiation at a rate sufficiently high to be significant from the therapeutic standpoint or will not be safe to use because of the prolonged character of the radiation.

The short life of the radioactive substances represents one of the valuable propensities of the material for diagnostic and therapeutic purposes, because in radium or radon neither tracer substance nor internal therapy is available because of the high toxicity, the slow excretion, and the prolonged radioactivity associated with them and their breakdown products.

Dr. Shields Warren, Professor of Pathology at Harvard Medical School, has made rather extensive study of radioactive phosphorus and gives as the reasons why this substance is the most widely utilized for therapy of the various radioactive isotopes, one, that phosphorus is a normal constituent of the body, and second, the half life of the radioactive phosphorus is 14.3 days, long enough time to permit the necessary technical manipulations to be carried out prior to its administration and short enough to avoid any long range toxic effects.

The material is absorbed approximately ten times as fast by certain rapidly growing types of cells, as, for example, the white blood cells in leukemia, as by cells growing at a normal rate. Finally, the end product of the phosphorus is inert sulfur which again is a harmless and normal constituent of the body. As an added point, the beta radiation given off by the phosphorus P32 is of relatively limited penetration so that it exerts its injurious effects on tissues in close proximity to the region of its absorption.

Radioactive isotopes produce their physiologic effects through ionization of protoplasm, regardless of the means of administration and the chemical form in which they are given. This ionization probably is effective through disruption of enzyme systems.

Cells are injured in several ways. A vital portion of the nucleus may be damaged, with cell death resulting. Hormonal alterations may be induced that show no effect in that cell itself but will be apparent in abnormalities of descendants of that cell.

One of the ways in which neoplastic growths are circumscribed in their meta-

static trends is through the process of irradiation of fibrous tissue cells and the production of an abundance of intercellular collagen with high ionization of that collagen. Not only does this directly damage the tumor cell but also induces local fibrosis of the supporting cells of the tumor which hampers the spread and interferes with nutrition of tumor cells themselves. The sclerosing damage done to the blood vessels which nourish the tumor prevents the free flow of blood and thereby further interferes with the growth of the tumor. This is true when the thyroid gland picks up the iodine which it has been possible to concentrate in the hyperplastic thyroid gland and its metastatic stations. Once deposited there, irradiation of the thyroid cells ensues, with regression of their hyperactivity for an indefinite period of time.

Because of the high diffusibility of the sodium isotope and the absence of selective absorption of it by any of the body cells, there has been relatively little therapeutic use evolved so far. The tracer technique offers opportunity to follow through the body the movements of the particular molecules containing the tagged tracer substance. The operator should certainly be cautious in using radioactive material in such small amounts that it will not have cellular alterations, but in sufficient amount as to be able to follow it with the Geiger counter to the various stations throughout the body.

As to the question of protamine zinc insulin, it is possible to follow the distribution of the zinc insulin complex until it has been split off from its molecule. The same thing is true with radioactive iron in giving minute amounts to make the hemoglobin of red cells radioactive so that the period of survival of transfused red blood cells may be accurately determined. This was of major use in the development of the ACD (acid citrate dextrose) solution which made possible the shipments of large amounts of whole blood from this country to our battle fronts in Europe and the Pacific during the late war.

By combining radioactive carbon in the molecule of glucose, it has been possible to make important advances in the understanding of carbohydrate metabolism in the body. Regarding the use of Carbon 14, Dr. J. Failla, Professor of Radiology and Director of Ra-

diological Research, Columbia University, has made rather extensive study on this particular isotope. He calls our attention to the fact that carbon is a chemical component of practically every drug produced today. The radioactive isotope of Carbon 14 is now available and in principle it may be incorporated in any organic compound.

Radioactive carbon offers its greatest contribution thus far to studies in physiology of the various food elements such as protein, carbohydrates, fat metabolism and their by-products. It has been used in tracing the ultimate deposition of certain drugs used in medicine; for example, urethane in treatment for leukemia, carcinogenic agents, barbiturates, benadryl, dilantin, digitalis, and opium and its derivatives.

Foods like sugar or drugs containing radioactive carbon, as mentioned above, may be administered to a person to study their course through the body. Carbon 14 has a very long life. After four thousand years about one-half of the initial amount still remains. If it is not then completely eliminated by the body, some at least will continue to irradiate tissues throughout the individual's life. For this reason, a Committee on Isotopic Distribution has recommended that Carbon 14 be administered to human subjects only after sufficient experimentation will have provided a basis for safe use. If Carbon 14 becomes incorporated in living tissues, some of it will be transformed into CO_2 through ordinary metabolic processes and will be exhaled into the atmosphere. In the laboratory where many experimental animals are present, this may constitute a health hazard for the workers.

Physicians especially are interested in the deleterious effects of atomic energy. In other words, we are innately afraid of experimentation on the lives or health of our patients. This is as it should be because nuclear physicists are now working with rays and ionizing particles, the exact capacity of which for damage to the tissues is quite unknown. They do know, and state, that irradiations influence cytochemistry, chromosome development and blood pictures.

It therefore becomes incumbent upon us to be very positive that any patient receiving radioisotope medication, for either diagnosis or therapy, have frequent and careful blood analyses, noting the appearance of any

bizarre or unusual white corpuscles and especially their change in total number.

All the evidence to date suggests the damaging effects of radiation upon the young dividing cells rather than on the mature cells which are in circulation. Damage at an early stage, if it does not kill the cell, may render it incapable of complete maturation. It is generally admitted that the lymphocyte is the most radiosensitive cell because reduction of the number of lymphocytes is the earliest, most marked and most consistent change induced by therapeutic doses. Lymphocytes, on the other hand, are able to recover rapidly.

Sir Lionel Whitby, Consultant in Hematology to the British Atomic Energy Station, made some interesting observations regarding the effects of radiation on the productive system. In the male, the gonads may be affected and spermatogenesis may be stopped. Even complete atrophy of the seminiferous tubules has been observed in some cases. In the female, miscarriages may occur. Insidious changes may be produced which may affect progeny for several generations.

There has never been a time when the public was so alerted to the use of an agent as they are at this moment regarding the radioisotopes in diagnosis and treatment of cancer. America is losing one out of every eight or nine of its population with cancer and that necessarily affects numerous homes in our land. It is obvious then that the physician should acquaint himself as thoroughly as possible with both the uses and abuses of the radioactive isotopic program.

If some biochemist could find an isotope for which all cancer cells hunger, as do thyroid cells for iodine, then the huge problem of cancer diagnosis would be partly solved. Such a diagnostic wonder may never materialize, but if it should and bring about an early diagnosis, it certainly would be more important in saving lives than any radioactive treatment instituted subsequent to diagnosis.

It is true that there are more than one hundred different kinds of radioactive isotopes being produced by the Atomic Energy Commission. Unfortunately, only a few of these lend themselves directly to the treatment of disease. So far we must be content with only three of the isotopes which have been widely used for therapeutic purposes;

namely, iodine, phosphorus and gold. Added to these, of course, is the radiosodium which has proved valuable in cases of gangrene, trenchfoot and other ailments affecting the circulation of the blood.

ATOMIC ENERGY MEDICAL SCHOOLS

There is urgent need in the nation for doctors to be trained to combat the effects of radiation and also to advise the population as to the best means of preventing damage from the various forms of atomic energy. This is certainly too true in event atomic energy is ever used in war. Both the Army and Navy will need medical officers equipped to prevent and treat atomic casualties.

It is interesting to note that the University of Rochester, New York, supported by the Atomic Energy Commission, has established such a school where experts may be trained in safeguarding the public from the developments of atomic energy all the way from the miners who dig uranium-bearing ore to men and women in the factories, sick people and those who administer to them.

In this first school in Rochester, one hundred students will be enrolled in the first course, thirty of whom will be taking short courses in health physics and protection techniques, including dust counts and other radiation measurements and blood chemistry. Another thirty will be college or university graduates studying for Ph.D. degrees. These will be required to spend three years at this school. The remaining forty will be doctors, either M. D.'s or Ph.D.'s, or West Point graduates. These students will probably take one or two year courses.

The prevention and treatment of atomic energy damage is one of the crying needs of the hour. It is interesting to note that Dr. Paul E. Rekers and John B. Field have discovered a substance known as rutin, a bright yellowish powder made largely from the green buckwheat plant, which may save radiation victims by strengthening the walls of their blood vessels. Chemically, they claim, it has protected dogs from an uncontrollable and fatal bleeding which is the primary factor in the deaths of human beings and other mammals exposed to excessive doses of total body radiation. It is hoped that other schools of this type will be organized through many parts of the United States.

The University of Tennessee, together with the Atomic Energy Commission in a supporting role, is now projecting such a research center and school to be built on the property of the University of Tennessee, seventeen miles removed from Oak Ridge. It is pointed out that, because of the short life of many of the radioactive isotopes, its location would be ideal; and further, to be able to use the physics and chemistry departments at the University would augment the opportunity for research study.

A further and later development has been the proposed establishment of a Knoxville-Knox County Hospital for the treatment of indigent patients through a large number of the beds devoted to cancer, both research and treatment. This is a most timely enterprise and is receiving the support not only of physicians all over the state and South but of agriculturists, mine operators, manufacturers and people interested in many other phases of our economy who are watching for the results from such diversified research.

THYROID DISEASE

The thyroid gland, consisting of two rounded paramedial lobes, is located between the thyroid cartilage and the sixth tracheal ring, connected by a median isthmus overlying the trachea. The thyroid gland is enveloped in a connective tissue capsule which is firmly fixed to the cricoid and thyroid cartilages by a deep free tracheal fascia. The superior thyroid branch of the external carotid artery supplies the upper portion of the lobes. The inferior branch of the thyrocervical trunk supplies the lower lobe and occasionally a small branch from the innominate artery at the midline known as the thyroidea ima. The blood is returned from the thyroid gland by three sets of veins, the superior and middle thyroids draining to the internal jugular, the inferior thyroid veins draining to the respective innominate veins.

Lymphatics of the thyroid form a rich network extending into the gland in the form of superior and inferior trunks, right and left lateral trunks and the posterior trunks. The superior group of the lymphatics travels upward in front of the larynx and then laterally to end in the subdiaphragmatic group of nodes along the internal jugular chain. In the inferior group, the trunks

descend along the inferior thyroid vein and drain into the lymph nodes of the transverse pretracheal chain. There is another group of lymphatics arising from the posterior surface of the lower lobes which drains into the recurrent chain of lymph nodes and later join with the inferior median collecting trunks. The lateral trunks arise from the lateral lobes and drain into the antero-superior lobes of the internal jugular chain. The posterior trunks are not always constant, but, when present, terminate into the lateral retropharyngeal nodes.

Lymphatics of the thyroid gland then are drained by the lymph nodes of the internal jugular chain and recurrent chain and by the pretracheal and retropharyngeal lymph nodes. The rich blood supply and the rather rich lymphatic supply make the thyroid gland a vulnerable organ for the spread of carcinoma by close contiguity into the cervical lymph nodes and remotely by the lymphatics and vascular channels to the bony framework of the body.

Carcinoma of the thyroid is commonly seen in patients between the fourth and seventh decades. It is extremely rare in young individuals. It predominates in the female in the ratio of about seven to one. Carcinoma of the thyroid is not related to exophthalmic goiter as evidenced by the absence of elevation of the basal metabolic rate in carcinoma of the thyroid gland. Ninety per cent of the malignant neoplasms arise in preexisting, longstanding adenomas. It is also interesting to note that eight per cent of exophthalmic goiters present coincidental fetal adenomas. If the exophthalmic goiter and carcinoma should appear in the same patient, it is a safe prediction that there is a small adenoma situated somewhere within the hyperplastic gland.

Of the benign tumors of the thyroid gland, adenoma is by far the most common. It is usually found in the well encapsulated nodule weighing anywhere from twenty-five to two hundred grams. This capsule is a definite connective tissue variety and is usually strong enough so that the tumor will shell out easily at operation. The classifications of adenoma are divided into embryonal and fetal. About three per cent of all adenomas show evidence of blood vessel invasion, and those most prone to have such invasion are the embryonal or fetal type. If

invasion is present, the adenomas should be regarded as potentially malignant, although Ackerman has stated that there is a ninety-five per cent chance that this tumor will never show any evidence of metastasis.

Another benign type of thyroid enlargement is the papillary cystadenoma seen far less frequently than the adenoma. It is usually cystic in character and shows frequent evidence of hemorrhages within the tumor. These tumors often break down into carcinoma and metastasize rather rapidly if the invasion enters the blood vessels. They vary greatly in their degree of metastatic change because of the increased rate of growth.

Of the malignant types of thyroid tumors, in addition to the papillary cystadenoma just referred to, and the adenomas with the blood vessel invasion, which are rather rare, we find the papillary adenocarcinoma and alveolar adenocarcinoma, giant cell carcinoma and epidermoid carcinoma. There is also noted a fibrosarcoma and lymphosarcoma which are questionably primary tumors of the thyroid.

The papillary adenocarcinomas perhaps lead in the number of instances of neoplastic disease of the thyroid and the epidermoid type is extremely rare. Tumors showing the highest degree of malignancy also show the greatest spread by local invasion. This type of tumor involves the recurrent laryngeal and vagus nerves, subcutaneous tissue and muscles. All of the thyroid muscles eventually become involved but the sternocleidomastoid is rarely invaded. Cartilaginous rings of the trachea are highly resistant to involvement.

The local metastatic spread in thyroid disease is usually very slow. Numerous cases are reported in which the nodule is present with unilateral lymphatic enlargement for ten to twenty years. Lymphatic enlargement becomes bilateral if nodules appear on both sides of the thyroid gland. In distant metastasis, the lungs, bones, liver, kidneys and brain, perhaps in the order mentioned, are the most frequent sites of metastatic spread.

An important clinical observation is the change to fixation and unusual firmness of a goiter that has existed for a number of years. If the adenoma takes on sudden growth, it may well be caused by a hemorrhage within. Many of these cases will come with a history

of having had the enlargement of the gland for a period of three to seven years. The patient usually presents herself because of some difficulty in swallowing or a change in the voice. She gives the symptoms of pressure in the throat with some difficulty in both swallowing and breathing.

These tumors are usually unilateral and asymmetrical. They are not fixed to the overlying skin until malignancy is fairly well advanced. X-ray examination of the chest, bones, skull, vertebral column, humerus and sternum should be made in every case in which thyroid enlargement has existed for a number of years.

On my recent visit to Europe in the month of June, it was my privilege to talk with Dr. Robert McWhirter of Edinburgh, Scotland, whose work on carcinoma of the breast has been rather revolutionary. He, together with his associates and the surgical staff, are conducting a similar experiment with carcinoma of the thyroid gland. They have observed that the incidence of cancer of the thyroid is 3.6 in the female to 1.0 in the male, whereas, in simple goiter, the ratio was 7.9 in females to 1.0 in the males. They divided their group of cases into adenocarcinoma, 23 per cent, and papillary adenocarcinoma, 16 per cent. Papillary adenocarcinoma was the most slowly growing and least malignant type, with an average existence of symptoms for some three years before the condition was recognized. The adenocarcinoma had much more frequent vascular invasion and local fixation. In these cases the time noted before coming for treatment was around one year.

Dr. McWhirter and his associates recognize another group of undifferentiated carcinomas, 61 per cent, which were by far the most malignant and rapidly growing kind. The local fixation was present early, the regional nodes were positive in 25 per cent and distant metastasis in 16 per cent of these cases.

The criterion used by Dr. McWhirter and Dr. Graham for the use of surgery is one in which the tumor is only slightly fixed, both as to the parent tumor and the lymph nodes. They advise against surgery if the lesion and lymphatic spread are bilateral.

Twenty per cent of their total series of 144 cases came within this category and 73 per cent of five-year cures were obtained by

surgery. Of the cases coming under the inoperable classification, adequate x-ray treatment showed a five-year survival in 29 per cent of the cases. They found that the large group of undifferentiated cancers of the thyroid was radiosensitive in more than fifty per cent of such cases. The adenocarcinomas and papillary adenocarcinomas are not radiosensitive and therefore surgery is recommended for all such tumors even though they have limited fixation. They further recommend that, if the lesion should be confined to one lobe, only the lobe and the isthmus should be removed. If it is found that vein or node involvement is present in a slow growing type of tumor, radical neck dissection and hemithyroidectomy is the procedure of choice. They state that complete thyroidectomy is rarely indicated in malignancy of the thyroid gland.

Dr. McWhirter is of the opinion that all adenocarcinomas or papillary adenocarcinomas should be removed by surgery and followed by x-ray therapy, that the undifferentiated carcinoma should be treated by x-ray because of its sensitivity and because it offers the greatest salvage in five-year cures; and furthermore, due to the mushroom-like growth of this type of tumor, sur-

gery becomes a difficult and dangerous procedure which might well be attended by all of the complications of this type of tumor with operation.

The question of thiouracil in carcinoma of the thyroid gland is not yet settled. Whether or not this drug has any activating influences upon a dormant malignant lesion located in a hyperplastic thyroid will require more time for study and evaluation.

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THE MAJOR NEURALGIAS

WALTER G. HAYNES, M. D., F. A. C. S.

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The conquest of pain was for some centuries the goal toward which all physicians strove. Not until the middle of the last century, however, was any noticeable progress made in this direction and even then such relief was limited to general anesthetics, alcohol, and opium and coal tar derivatives.

Since the turn of the century, the treatment of pain has been divided, just as has the practice of the medical art, into specialties. The neurosurgeon directs his attention to the relief of intractable pain caused by whatever etiology, and pain arising from nerves which are inflamed, impinged upon or altered in any way so that they conduct painful impulses.

Read before the Association in annual session, Mobile, April 15, 1948.

Tic douloureux, *trigeminal neuralgia* or *trifacial neuralgia* are all synonymous terms indicating painful involvement of the trigeminal or fifth cranial nerve. The etiology of this disease is unknown, although certain etiologic factors have been delineated. It has been found in patients suffering from syphilis. It has also been seen wherein the nerve is actually pressed upon by a neoplasm, but otherwise it has an obscure etiology. Certain changes in the nerve cells of the gasserian ganglion have been described, but these do not seem to be consistent and cannot therefore be blamed for the condition. It occurs almost exclusively in the age group after forty, although occasionally it is seen in a younger individual. However, the diagnosis of *tic douloureux* in an individual under forty should be questioned.

A careful search should be made for some etiologic factor, such as a tumor impinging upon the nerve in its passage through the cranium.

The pain may involve any one or combination of the three divisions of the trigeminal nerve. It is usually unilateral and the pain does not cross the midline. Occasionally, though, it is seen on both sides of the face.

The pain is described as being of a very severe and excruciating type which occurs in spells. It is a sharp, shooting, lancinating, shock-like, paroxysmal pain which radiates from the angle of the jaw along the direction of the involved divisions of the trigeminal nerve. If the *third division* is involved, it radiates along the lower lip, the lower cheek and lateral border of the tongue. The *second division* radiates into the upper lip, the lateral side of the nose and the infra-orbital region. The *first division* pain radiates above the eye and back over the forehead. There is a branch of the third division which radiates from the ear directly up toward the vertex of the skull. There is usually a *trigger zone* wherein the pain may be precipitated by touching the face, washing it, exposure to cold air, drinking cold water or shaving. The pain lasts only a few seconds but may be repeated frequently. Interspersed between the sharp, shooting pain there may be a period of dull pain, but this is the exception.

A constant, dull, aching pain in these divisions is not the description of a *tic douloureux*.

The treatment of these unfortunate individuals has been so refined that it may be called specific and innocuous. The medical treatment of trigeminal neuralgia is generally considered to be of no avail and all the vitamins, pills, diathermy, diets and extraction of teeth will give no relief from the excruciating pain of *tic douloureux*.

There are two accepted principles of treatment. One is the injection of the involved peripheral branch of the trigeminal nerve with absolute alcohol. This interrupts the fibers of the fifth nerve, which are all sensory, and therefore does not give any ensuing paralysis. The injection treatment is commonly used to precede surgery so the patient may become accustomed to the numbness of the face which inevitably follows operation. It gives relief of the pain for from six months

to a year and must then be repeated. Alcohol injection of the first division of the trigeminal nerve is impractical and usually avulsion of the supra-orbital branch is preferred. Alcohol injection of the second and third divisions, however, is extremely satisfactory and gives temporary relief.

Eventually almost all of these patients will come to surgery since the injection is of such a short-lived nature. The formidable mortality rate of the early operation, which consisted of removal of the gasserian ganglion, caused this surgical procedure to be dreaded universally. Now, since the advent of modern neurosurgical technique, it has become a fairly innocuous procedure which gives universally good results with no paralysis and with comparatively little danger to the patient. Many patients have been operated on after the age of eighty and the mortality rate should run slightly less than one per cent.

The technique of the operation, in trained hands, is comparatively simple. A subtemporal incision is made midway between the external auditory meatus and the eye. A small portion of temporal bone is removed. The dura mater is then lifted up from the base of the skull and the middle meningeal artery is occluded as it leaves the foramen spinosum. Just medial to this foramen lies the third division of the trigeminal nerve as it enters the foramen ovale. This is traced back to the gasserian ganglion which lies in Meckel's cave on the floor of the middle fossa of the skull. The dural envelope surrounding the ganglion is then opened and a differential section of the fibers of the posterior root between the ganglion and the pons is then made. The motor root, or *portio minor*, of the trigeminal nerve lies behind the ganglion and can be avoided. Those fibers representing the involved divisions are severed. The patient is kept in the hospital less than a week and there has been no mortality in the last 150 cases. The neighborhood, naturally, is always upset at the time of such a procedure and the kindly neighbors generally shower advice upon the prospective patient. The usual concern is that of paralysis. If the operation is deftly done, there should be no paralysis of any musculature of the face or body. The third, fourth and sixth, as well as the seventh, cranial nerves lie in proximity to the gasserian ganglion but, if one is familiar with the

anatomy and the technique of the operation, this constitutes no danger. If it is necessary to section the first division of the trigeminal nerve, then the cornea will be subject to insensitivity and possible ulceration later. This can be a very serious thing and result in the loss of an eye. It is therefore desirable that the first division of the trigeminal nerve be spared in such an operation, and that avulsion of the supra-orbital nerve in its peripheral branch be the operation of choice. This causes no corneal insensitivity. If the portio minor, or motor branch, of the fifth nerve should be accidentally severed, it will result in an ipsilateral paralysis of the masseter, pterygoid and temporal muscles. This is not a great disability, however, even though the chance severance of this branch is rare.

Glossopharyngeal neuralgia, or ninth nerve neuralgia, can be confused with trigeminal neuralgia because the description of the pain is exactly the same. The pain is of a sharp, shooting, lancinating, paroxysmal, explosive type which radiates from the tonsillar fossa in the throat downward and upward into the external auditory canal. The differential point between trigeminal neuralgia and glossopharyngeal neuralgia lies in the distribution of pain. The patient suffering from ninth nerve neuralgia inserts his finger into the external auditory canal in an attempt to delineate the pain. This is never done in a patient suffering from tic douloureux. Swabbing the tonsillar fossa with cocaine will give temporary relief of this pain and is a diagnostic point in the differentiation between it and tic douloureux. There is no referral of the pain to the face.

The ninth nerve is not accessible for an injection with alcohol and the treatment of it therefore must be confined to the intracranial section of the glossopharyngeal nerve in the posterior fossa. This is again a relatively innocuous procedure and is well worth while for the relief of this incapacitating, excruciating pain in elderly people.

The *technique* involves a linear incision over the suboccipital plate of bone. A small portion of bone is removed and the dura mater opened. Upon retracting the cerebellum medially one comes down upon the cerebellopontine angle and the fifth, seventh, eighth, ninth, tenth, eleventh and twelfth

nerves are easily visualized. The ninth nerve is identified as a single strand and severed with a sharp knife. The operation is usually done under local anesthesia so that the pain can be identified when the nerve is stimulated. The mortality rate is as low as that for the surgical relief of trigeminal neuralgia and there is no resultant disability. This same approach to the glossopharyngeal nerve is used for the surgical treatment of *Meniere's disease* wherein the eighth nerve is sectioned intracranially. Meniere's disease, however, constitutes a labyrinthitis and, although it has been called an eighth nerve neuritis, does not enter this discussion.

The two preceding syndromes which have been discussed, namely, trigeminal neuralgia or tic douloureux and glossopharyngeal neuralgia, actually constitute the major neuralgias about the head. There are three major syndromes about the head which are painful and which can be included in this discussion. They are classed as *minor neuralgias* only in that their pain is not so violent but is more of a constant, nagging type.

One such syndrome is that of *neuralgia of the nerve of Wrisberg*, or *nervus intermedius*. This is a small branch of the seventh nerve arising from the pons midway between the seventh and eighth nerves and following the seventh nerve in its course through the cranium.

The pain is described as being of a sharp, shooting, lancinating, paroxysmal type which radiates to a portion of the floor of the external auditory meatus. There is no other radiation of the pain. It must be differentiated from a trigeminal neuralgia and a glossopharyngeal neuralgia since, in both cases, pain may radiate about the ear.

The surgical treatment for neuralgia of the nerve of Wrisberg is that of intracranial section of this very fine filament. This is a difficult procedure and the results are still equivocal. Separating the seventh and eighth nerves in the cerebello-pontine angle is a technically difficult process. If this can be done, however, without injury to the two nerve trunks there can be seen a very fine bundle lying on the seventh nerve. This constitutes the *nervus intermedius* and must be sectioned for relief of the above described pain.

There is also, apparently, a neuralgia which may involve the first branch, or the first filament, of the tenth or vagus nerve as it arises from the pons. I have seen one such case which was confused with a glossopharyngeal neuralgia. The pain was of a sharp, shooting, lancinating, paroxysmal type which radiated from the throat to the external auditory meatus in the posterior surface. An intracranial section of the ninth nerve was done on this patient, but without relief, and it was not until I had stimulated the first filament of the tenth nerve as it emerged from the pons that I reproduced the pain in the ear. Section of this filament relieved the pain permanently. We must, therefore, concede that there are sensory fibers in the vagus nerve and that the vagus nerve may be the site of a major neuralgia.

Another commonly described syndrome in most of the textbooks is that of *Sluder's neuralgia*, or sphenopalatine neuralgia. Almost all of the descriptions of pain about the head describe this syndrome, but I have as yet to see a syndrome which could be termed *Sluder's neuralgia*. The ear, nose and throat men have seen most of these cases and they say that cocainizing the sphenopalatine ganglion through the nose will give relief of the pain. It should follow then that removal of the sphenopalatine ganglion should give permanent relief. I do not know of this having been done, however, except in one case wherein it was attempted by an eminent ear, nose and throat specialist. Unfortunately the carotid artery was entered during the procedure and the operation was terminated before the results could be ascertained.

It is generally felt that *Sluder's neuralgia* constitutes a functional disease rather than an organic disturbance.

There has been of late, since 1941, several attempts to classify the *sympathetic vascular* type of headaches which have been so commonly seen and confused with migraine. There has been reported recently a series of one hundred cases wherein the pain was described as being a sharp, severe one which radiates from the temporal region to the eye and which may radiate from the occipital region through the temporal region into the eye. These headaches are not accompanied by scotomata or by nausea. The eye may become reddened and tear and the temporal

artery and/or the occipital nerve may be tender to palpation. In these cases injection of novocaine about the offending artery or nerve and eventual resection of the artery or nerve has given good results in approximately ninety per cent of the cases which have been operated upon. These headaches have been termed temporal vascular headaches, or occipitotemporal vascular headaches.

Occipital neuralgia is a sharp, shooting, paroxysmal pain which radiates along the course of either greater occipital nerve. This pain is exactly the same type that is described in trigeminal neuralgia but its location is different. Resection of the occipital nerve gives permanent relief of the pain.

Occipital neuritis on the other hand is usually secondary to some intrinsic disease process about the upper cervical vertebrae, usually at the level of C2 and 3, wherein the greater occipital nerve emerges. This is a dull, aching, more constant type of pain and the nerve is tender to palpation. Injection or resection of this nerve will give relief. All of the procedures described above are innocuous ones necessitating only one to three days of hospitalization and with no danger of ill effects.

The title of this paper was purposely extended so that discussion of the brachial neuralgias and the lumbosacral neuralgias could be included. *Brachial neuralgia*, for all practical purposes, can be subdivided into two major groups.

The *anterior scalene* syndrome, wherein the brachial plexus is involved and in which it continuously rubs against the first rib, or an aberrant cervical rib, due to spasm of the anterior scalene muscle, is fairly common but has fallen in disrepute probably because it was confused with the presence of a protruded intervertebral cervical disc.

The syndrome of the anterior scalene is that of pressure upon the trunks of the brachial plexus at the level of the first rib. This usually means the lowermost trunk, in which the ulnar nerve is involved. The pain radiates down the arm along the course of the ulnar nerve. The muscles supplied by the ulnar nerve are weak, and anesthesia or hypoesthesia of the skin supplied by the ulnar nerve is manifested. There is always a vascular component to this disease and the arm may be cold and the blood pressure in

that arm diminished. The radial pulse is obliterated upon contraction of the anterior scalene muscle.

Surgical treatment of an anterior scalene syndrome is simple and consists of section of the anterior scalene muscle through a small collar incision in the neck. It must be remembered, however, that all of the fibers of the scalene muscle must be sectioned to allow the first rib to drop and avoid the friction neuritis which causes the scalene type of pain.

A *protruded intervertebral cervical disc* has been diagnosed more frequently since 1940. The many failures of response to section of the scalene muscle can probably be attributed to the fact that the diagnosis was wrong and that the patient suffered from a protruded intervertebral disc rather than from an anterior scalene syndrome.

The patient complains of pain at the lower part of the cervical spine which radiates along the course of the roots through the brachial plexus, down the arm and into the hand. The usual radiation of pain is into either the base of the thumb or the index finger, depending upon the root involved. Examination reveals a tender area between the spinous processes of the involved cervical spine, usually either C-5 and 6 or C-6 and 7, since they occur at both sites. The brachial plexus is tender at the supraclavicular fossa and usually the radial nerve is tender down the course of the arm. Pressure upon the top of the head, known as Spurling's maneuver, reproduces the pain. There is hypo-esthesia either at the base of the thumb or over the dorsum of the index finger, depending upon the involved cervical root. Either the biceps reflex or the triceps reflex is diminished, again depending upon the involved root. These are pathognomonic signs of a protruded intervertebral cervical disc.

Hemilaminectomy, with removal of the offending disc or at least decompression of the compressed nerve root, has given excellent results. By and large, in a fairly large series of such discs of my own, the end result and permanent benefit have exceeded those derived from operation for a lumbar protruded intervertebral disc. The period of disability is short and the patient usually returns to work within three weeks.

As a concluding syndrome, I think it wise to mention briefly the ever-increasing frequency of occurrence of a *protruded intervertebral disc in the lumbar region*. The literature has been extensive, and the syndrome is well known to all of you.

The patient usually remembers some mild or insignificant trauma to the back wherein he developed a constant, nagging lowback pain. The pain then extends from the back down either or both legs along the course of the sciatic nerve. The pain is made worse upon motion or upon coughing or sneezing. The patient may walk with a list either to or away from the side of the ruptured disc. He may complain of weakness of the involved leg and he usually complains of paresthesias about the lower leg.

Upon examination he has a tender interspace at the site of the protruded disc, either L-4 and 5 or L-5 and S-1. Herniated discs above this region are uncommon but do occur. The sciatic nerve is tender and the Lasegue, or straight leg raising, sign is positive. There is usually hypo-esthesia of the involved skin segments and the ankle jerk is diminished in eighty per cent of the cases wherein the disc is at L-5—S-1 and forty per cent of the cases wherein it is between L-4 and L-5. The presence of an Achilles reflex does not therefore preclude the presence of a ruptured disc.

The operative procedure has been so refined that it is not necessary to sacrifice any bone, but the protruded disc is removed through the interspace. The operation is innocuous and carries little or no mortality.

The results have been excellent, although there is occasionally a residual low back ache which comes on following exertion.

The controversial question as to fusion following removal of a disc will not be entered into here. Suffice it to say that there may be some cases wherein fusion is indicated.

In *conclusion*, then, we have discussed under the title of the major neuralgias the various disease entities which cause pain, particularly along the course of the fifth nerve, trigeminal neuralgia; the ninth nerve, glossopharyngeal neuralgia; and the seventh and tenth nerves. Sluder's neuralgia was mentioned only in passing and various types of vascular headaches were described. Brachial neuralgia was divided into the syn-

drome of the anterior scalene and the protruded cervical intervertebral disc. Protruded intervertebral lumbar discs were

discussed and the surgical treatment for all of the above entities was discussed and evaluated.

THE PRACTICAL MANAGEMENT OF ACNE

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The physician is frequently confronted by common acne as a treatment problem in young patients. The disease presents little difficulty in diagnosis, and, since it is not commonly associated with physical disability, it is only too often dismissed with a kind pat on the back and the reassurance that "you will grow out of it." The young impressionable adolescent, however, is not reassured but resigned to years of pimples by this advice. Irreparable psychic damage has occurred in young girls and boys who suffered through years of acne without treatment. This is particularly true of acne in young girls, associated with constant picking and squeezing of the lesions, who become shy and extremely nervous in public. There is a well known acne condition designated as "acne excoriee" de jeune fille," which is to be distinguished from common acne because of the profound anxiety state associated with it. Extreme antisocial tendencies are evident, and in severe cases suicidal attempts are not unknown. Good management, including sympathetic understanding, will do much to prevent such incidents from becoming serious; and a reasonable explanation to the patient of the problem to be attacked is often the difference between success and failure in the individual case.

The causes of acne are not fully known but enough is understood to make therapeutic approach reasonable and effective. The average acneiform eruption is first seen at puberty, slowly becoming worse as maturity is approached, and the inference of the influence of the sex hormones in producing acne is inescapable. During this period, marked activity of most hormone-secreting organs is evident, and the sebaceous glands of the skin also secrete more oily sebum. As the individual reaches maturity, much of this activity appears to subside, and acne becomes less active, eventually leaving behind the scars of former papules and pustules. The

influence of a high carbohydrate diet, so common in adolescents, may contribute to the production of the frequent papulo-pustules present, and the favorable effect of sunlight for its drying and bactericidal effect. Acne is produced or made worse by certain ingested foods, notably chocolate, and by drugs, principally bromides, and iodides in the form of iodized salt. Nutrition, proper hygiene, and intercurrent febrile illness are important, and a disposition to acne appears to be inherited in many instances. No one causative agent is responsible alone, and all are contributory.

The *diagnosis of acne* is relatively simple. The primary lesion is the comedone, or blackhead, and should be present to make certain of the diagnosis. The skin is usually oily and the complexion sallow. The comedone, a black follicular plug of sebum, soon develops into a papule or pustule. The pustule and papule are a combination of a foreign body reaction and infection, and explain the need for removal of comedones since it is the fully developed papulo-pustule which leaves the unsightly scar upon healing. The common sites for these lesions are the forehead, cheeks, chin, neck, the region of the sternum and back and shoulders.

The *types of acne* are designated solely upon clinical manifestations. The common form as described in the preceding paragraph is acne vulgaris. When there are, in addition, numerous deep seated cystic lesions of purplish hue, the term acne conglobata is used. In some patients the disease develops with a fulminating suddenness and there develops a very severe deep-seated eruption of the face, neck and forehead. To this the term "pyoderma faciale" is applied, and specialized care is needed. The terms simplex, seborrheic, pustulosa, are self-explanatory.

The *treatment of acne* varies widely. It is possibly true that the physician who undertakes to treat acne requires as much reassur-

ance as does the patient regarding the eventual outcome of the disease, and a thorough understanding of the problem to be managed does much to dispel the doubts of the persistent physician. The very multiplicity of drugs and methods used is proof of the difficulty encountered in therapy, but it is not indicative of the excellent results in the treatment of the cooperative patient.

The most important local remedy used in acne is sulfur, usually as *lotia alba*, N. F., the formula for which is:

Zinc sulfate	4.
Precipitated sulfur	10.
Potassium sulfurette	10.
Rose water, q. s. ad	100.

Occasionally 2% resorcinol and 2% sulfur precipitate, in an emulsion base, is preferred. Drying of the skin, mild exfoliation, and mild antiseptic action result from the use of these preparations and they are applied each night to all areas involved. A recently marketed sulfur preparation,* consisting of sulfur in an especially penetrating vehicle, is of particular value in treating deep seated papules and pustules. It is applied locally by means of a glass rod applicator to the individual lesion once or twice daily, being rubbed in for about one minute. During the day an astringent lotion consisting of 1% boric acid and 1% camphor in alcohol is washed over the face and neck as an aid in keeping excess oil from accumulating on the skin.

General measures are important for the control of acne, particularly with regard to infection. Sunlight, normal washing of the affected parts with soap and water, exercise, and enough sleep are needed. Vitamin A in doses of 100,000 units daily may be given. A diet low in carbohydrates, avoiding all forms of chocolate, nuts, and alcohol, as well as deep-fried foods, is helpful. In addition, foods the patient considers as contributing to his acne, or causing constipation, should be avoided.¹ Good bowel hygiene often promotes prompt disappearance of some acneiform lesions. Seborrheic scaling of the scalp should be corrected, using alcoholic vehicles for medication. No oily hair preparations should be permitted.

A word about drugs causing acneiform lesions may be invaluable in certain pa-

tients. The iodides and bromides are particularly prone to cause papulo-pustular lesions and are widely used in iodized salt and in headache powders. These should be withheld in the acne patient. External contact with tars and petroleum products also may produce acneiform lesions.

X-ray therapy in the hands of experienced physicians using calibrated equipment is the most valuable single adjunct in the treatment of acne. Used as the only form of treatment, however, x-ray may be very disappointing. It should not be used in patients under 17 or 18 years of age unless the circumstances are extenuating and the condition is unusually severe. X-ray therapy, consisting of 75r units to affected parts once weekly for 8 to 12 weeks, is usually sufficient to cause involution of the lesions and decrease excessive secretion of sebum for several months. It may be repeated from one to two years later, if needed, but only in the hands of the expert.

During the winter months, when little direct sunshine is available, ultraviolet light is helpful, along with surgical drainage of pustular and cystic lesions. It may be used in mild erythema dose once or twice weekly. Occasionally, when extreme oiliness and large numbers of pustules are present, the daily use of ultraviolet light appears to cause disappearance of the lesions more rapidly.

Non-specific therapy in the form of staphylococcus toxoid, boiled crude-liver extract, and, in extreme cases, whole blood transfusions, has been valuable in addition to local therapy. Penicillin, injected locally or intramuscularly, may cause early resolution of developing pustular lesions but its effect is temporary and does not attack the underlying cause of acne. The use of small doses of thyroid extract, 1/2 gr. to 1 gr. three times daily, added to dietary and local therapy, has also benefited some patients, but it should not be used indiscriminately and the basal metabolic rate should be known prior to, and checked during therapy. The use of endocrine products has proved disappointing in subjects with acute exacerbations related to the menstrual cycle, but obvious menstrual abnormalities should be corrected whenever possible.

In conclusion, it is well to remember that frequent flare-ups in acne occur during therapy, and reassurance is doubly impor-

*Intraderm Sulfur. Wallace Laboratories Inc., New Brunswick, N. J.

1. White, C.: J. A. M. A. 103: 1277, 1934.

tant at these times. Acute upper respiratory infections, colds, influenza, and any febrile illness may begin anew the development of crops of new papulo-pustules.² This must be explained to the patient to keep his morale at as high a level as possible, and the individual should be warned not to pick at lesions or to make frequent visits to the mirror to observe daily progress of his disease.

SUMMARY

1. Common acne can be a serious problem to the adolescent patient, requiring large doses of reassurance, and intelligent understanding and management on the part of the physician.

2. Local treatment can be highly successful in the care of acne.

3. X-ray therapy is the most valuable addition to local therapy in the management of the stubborn acne problem, but its use is limited to expert hands.

4. A new local remedy has been found to be a valuable aid in the treatment of developed acne lesions.

PEDIATRIC CASE REPORTS

Edited by

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Gadsden, Alabama

CAUSES OF CHRONIC DIARRHEA IN INFANTS

CASE PRESENTED BY BENJAMIN P. CLARK, M. D.

There are many etiologic factors to be considered in an infant with long standing diarrhea. Two cases are presented here representing two rather common causes of diarrhea not so generally recognized.

C. W., a 4 month old male, was brought to the Clinic because of frequent bouts of diarrhea, restlessness, fretfulness and failure to gain. The infant was having from ten to twelve watery stools per day. During the six week period preceding the visit to the Clinic, the child had gained three ounces. The appearance of the infant was suggestive, but not characteristic, of the celiac syndrome. While the buttocks were atrophic, the abdomen was not large or flatulent. There was a low grade anemia and an eosinophilia of only 3%. However, stained smears

from the mucus of the stools were loaded with eosinophils. The child was placed on Mull-soy in full strength. Six days later the stools were normal, soft, three to four per day and the infant had gained 12 ounces. He was happy and contented.

The second patient, M. U., also a male, four months old, was referred to the Clinic because of failure to gain, frequent bouts of diarrhea, and frequent colds. The father stated that at one time the infant "had almost had pneumonia." An older sibling had been a feeding problem and had died suddenly at the age of seven months. This infant had had ten to twelve large, pale, foul-smelling, soft to watery stools per day most of his life. He had had many colds and a cough most of the time. He had been tried on various milks without much benefit. On examination, he was pale, the abdomen was large, soft and flatulent; the extremities were thin and the buttocks markedly atrophic. There were wheezing breath sounds throughout the chest. There was considerable anemia. The stools showed an excess of neutral fats and meat fibers passed unchanged through the intestinal tract. The child was discharged unimproved on a low fat diet, large doses of soluble vitamins A and D, and pancreatic substance by mouth.

DISCUSSION

The first case represents an allergy of the gastro-intestinal tract to cow's milk and responded well to a milk free diet. These cases are not uncommon and the diagnosis is easily proven by stained smears of the mucus from the stool.

The second case is one of fibrocystic disease of the pancreas. While the diagnosis cannot be positively made without an aspiration and analysis of the pancreatic secretions or by a vitamin A absorption test, it seems safe to presume this diagnosis on the basis of the history, physical findings, the excess fat in the stool, and the meat fiber test. This condition is more common than is generally realized, occurring in from 4% to 6% of children coming to autopsy. The child may be expected to make some improvement on dietary regulation, pancreatin by mouth, and large doses of soluble vitamins A and D, although the prognosis for long life is not too good.

2. Stokes, J. H., and Callaway, J. L.: Arch. Dermat. & Syph. 36: 976, 1937.

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EMPHYEMA

"Empyema of the thorax has become a rare disease. This is particularly true of the postpneumococcic variety and applies to other pleural abscesses resulting from trauma and other causes. A few years ago it was a well known lesion with a significant mortality rate and troublesome morbidity and the source of controversial opinions on details of treatment. Students of medicine were warned of the frequency of complicating empyema following pneumonia, and residents dreaded the management of drainage tubes and suction apparatus. Today it is possible and probably likely that young surgeons might not have the opportunity to study an old-fashioned case of empyema of the thorax during an extended training period.

"The first dramatic reduction in the incidence of postpneumococcic empyema followed the almost universal use of the sulfonamide drugs for pneumonia . . .

"The almost universal use of penicillin in infections of the respiratory tract has further reduced the frequency of pleural abscesses to a figure ranging from 0 to 0.08 per cent in most series . . . Moreover, the proved low toxicity of the mold makes it possible to give enormous doses both par-

enterally and locally with a minimal chance of dangerous or distressing side effects. The addition of streptomycin to the antibiotic armamentarium of treatment has furnished another effectual method to combat organisms not vulnerable to penicillin.

"It becomes apparent that empyema should be considered as a medical disease, with the goal of aborting frank abscesses rather than waiting for a well formed localized abscess to develop. It is important, however, to remember that the use of these agents, which have made empyema a rare lesion, may attenuate abscess formations and change the clinical manifestations of the disease so decidedly that a diagnosis frequently cannot be made, if one thinks in terms of the type of empyema common before antibiotic therapy was available."

Thus does Blades¹ begin his brief but excellent and interesting discussion of empyema. It is indeed heartening to realize how sharply the incidence of this dread complication is decreasing and even approaching the vanishing point. Only the older practitioners can now recall empyema as it existed twenty or more years ago. The prolonged pain and, frequently, the permanent disability which the patient had to endure and the unending difficulty and trouble of looking after the drains will never be forgotten by the surgeons and interns of those days. This is indeed a great change for the better.

Blades concludes that "failure to establish a definite bacteriologic diagnosis in the seriously ill patient should not be an absolute contraindication to antibiotic therapy, particularly in the case of penicillin. The significant toxic effects of streptomycin, however, make it important not to employ this agent unless there are absolute indications based on bacteriologic evidence. There are few exceptions to this principle."

JEFFERSON COUNTY'S HEALTH CENTER

The first public health center in the United States to be built with federal aid was dedicated and opened to the public in Birmingham on January 27. The principal dedicatory address was made by Dr. Palmer Dearing, Deputy Surgeon General of the Public Health Service, Federal Security Agency.

(Continued on page 252)

1. Blades, Brian: Empyema, J. A. M. A. 138: 943 (Nov. 27) '48.

PROGRAM OF THE AMERICAN MEDICAL ASSOCIATION FOR THE ADVANCEMENT OF MEDICINE AND PUBLIC HEALTH

A Federal Department of Health

1. Creation of a Federal Department of Health of Cabinet status with a Secretary who is a Doctor of Medicine, and the coordination and integration of all Federal health activities under this Department, except for the military activities of the medical services of the armed forces.

Medical Research

2. Promotion of medical research through a National Science Foundation with grants to private institutions which have facilities and personnel sufficient to carry on qualified research.

Voluntary Insurance

3. Further development and wider coverage by voluntary hospital and medical care plans to meet the costs of illness, with extension as rapidly as possible into rural areas. Aid through the states to the indigent and medically indigent by the utilization of voluntary hospital and medical care plans with local administration and local determination of needs.

Medical Care Authority with Consumer Representation

4. Establishment in each state of a medical care authority to receive and administer funds with proper representation of medical and consumer interest.

New Facilities

5. Encouragement of prompt development of diagnostic facilities, health centers and hospital services, locally originated, for rural and other areas in which the need can be shown and with local administration and control as provided by the National Survey and Construction Act or by suitable private agencies.

Public Health

6. Establishment of local public health units and services and incorporation in health centers and local public health units of such services as communicable disease control, vital statistics, environmental sanitation, control of venereal diseases, maternal and child hygiene and public health laboratory services. Remuneration of health officials commensurate with their responsibility.

Mental Hygiene

7. The development of a program of mental hygiene with aid to mental hygiene clinics in suitable areas.

Health Education

8. Health education programs administered through suitable state and local health and medical agencies to inform the people of the available facilities and of their own responsibilities in health care.

Chronic Diseases and the Aged

9. Provision of facilities for care and rehabilitation of the aged and those with chronic disease and various other groups not covered by existing proposals.

Veterans' Medical Care

10. Integration of veterans' medical care and hospital facilities with other medical care and hospital programs and with the maintenance of high standards of medical care, including care of the veteran in his own community by a physician of his own choice.

Industrial Medicine

11. Greater emphasis on the program of industrial medicine, with increased safeguards against industrial hazards and prevention of accidents occurring on the highway, home and on the farm.

Medical Education and Personnel

12. Adequate support with funds free from political control, domination and regulation of the medical, dental and nursing schools and other institutions necessary for the training of specialized personnel required in the provision and distribution of medical care.

He was introduced by Senator Lister Hill, co-sponsor of the bill which resulted in the National Hospital Program. Others participating in the exercises were Governor James E. Folsom, former Governor Chauncey Sparks and the State Health Officer.

The million-dollar health center will house offices of the Jefferson County Board of Health and the Alabama state laboratories. Voluntary agencies such as the local branch of the Alabama Tuberculosis Association, American Cancer Society and the Visiting Nurses Association will also have office space.

Approximately \$300,000 in Federal funds were added to the combined state-county and city funds of \$600,000 to complete this first of 63 public health centers approved to date for federal aid under the National Hospital Program. Total Federal funds of more than \$107,000,000 have been allocated to hospital construction projects under this program for a total of 645 hospital and health facilities.

SEMINAR ON DIABETES

In cooperation with the Department of Medicine of the Graduate School of the University of Florida and the Clinical Society of the Duval County Diabetes Association, the U. S. Public Health Service is presenting a seminar on diabetes at the George Washington Hotel, Jacksonville, Florida, March 28 and 29, 1949. The speakers will be as follows:

Dr. Charles H. Best, co-discoverer of insulin, Director of Banting and Best Department of Medical Research, University of Toronto and President of the American Diabetes Association.

Dr. Elliott P. Joslin, Medical Director of Baker Clinic, Boston, Mass. and author of a classic textbook on diabetes treatment.

Dr. Joseph H. Barach, Professor of Medicine in the University of Pittsburgh; Director of Falk Clinic; and Chairman of the Metabolism and Endocrinology Study Section of the Research Grants Division of the National Institute of Health.

Dr. John A. Reed, Assistant Clinical Professor of Medicine in George Washington University; Attending Physician and Director of the Outpatient Department of George Washington University Hospital.

Detailed programs will be sent to secretaries of medical societies in the Southeastern States area at a later date. There will be no registration fee. Hotel reservations should be made through Dr. Malcolm J. Ford, Diabetes Demonstration Unit, Box 210, Jacksonville, Florida.

ALABAMA HEART ASSOCIATION

The Alabama Heart Association, through its President, Dr. Roger D. Baker, Birmingham, urges all doctors to join the Heart Association. The dues are \$3.00 per year and are payable to Dr. John Burrett, Secretary, Alabama Heart Association, 1912 8th Avenue, So., Birmingham, Alabama. Dr. Baker states, "We are hopeful of obtaining as many monetary contributions from the doctors of Alabama as possible in the campaign to indicate to the public that the medical profession is solidly behind the aims of the program."

The program of the Alabama Heart Association for Jefferson County and the Medical College of Alabama calls for (1) support of heart clinics and services, (2) an educational program for the profession and the public, (3) coordination with other health agencies, (4) case finding work, (5) vocational retraining and job placement, and (6) research and training.

AMERICAN CONGRESS ON OBSTETRICS AND GYNECOLOGY

Further plans for holding the International and Fourth American Congress on Obstetrics and Gynecology have recently been announced by the sponsoring group, the American Committee on Maternal Welfare.

The preliminary program for the scientific sessions, as developed by the General Program Committee of which Dr. Howard C. Taylor, Jr. of New York is the Chairman, is as follows: The morning meetings, Monday through Friday, May 15 to 19, are general sessions each devoted to one of five topics, (1) physiology of human reproduction, (2) the pathology of human reproduction, (3) social and economic problems, (4) neoplastic diseases of the female reproductive system and (5) obstetric and gynecologic procedures.

The afternoons will be given over to meetings of various groups represented at the Congress, including nurses, nurse-midwives,

hospital administrators, educators, practising physicians, investigators in special fields and public health doctors and nurses. Arrangements for these meetings are under the direction of the following committees: medical section, Dr. Newell W. Philpott, Montreal, Quebec; educators and investigators, Dr. George W. Corner, Baltimore, Maryland; hospital administrators, Dr. G. Otis Whitecotton, Oakland, California; public health, Dr. Edwin F. Daily, Washington, D. C.; and nurses and nurse-midwives, Miss Margaret A. Losty, R. N. of New York City.

The technical exhibit is under the direction of a special committee of which Dr. Woodard D. Beacham of New Orleans is chairman. Dr. John Parks of Washington, D. C. heads the committee in charge of the scientific exhibit. The committee in charge

of arranging the motion picture program is under the direction of Dr. Archibald D. Campbell of Montreal. Applications for space in the scientific exhibit or for time on the motion picture program should be submitted to the chairmen in charge of these activities on official application blanks obtainable from the business office of the international congress at 24 West Ohio Street, Chicago 10, Illinois.

All inquiries pertaining to the meeting should be addressed to the Chairman of the International and Fourth American Congress on Obstetrics and Gynecology, Dr. Fred L. Adair, at 24 West Ohio Street, Chicago 10, Illinois. Mr. Karl S. Richardson is Business Manager. The site of the meeting, the Hotel Statler in New York City, was formerly the Hotel Pennsylvania.

PROGRAM OF THE ANNUAL SESSION

MONTGOMERY

APRIL 19, 20, 21, 1949

THE WHITLEY HOTEL

GENERAL INFORMATION

All sessions of the Association will be in the Blue and Gray Room of the Whitley Hotel, convention headquarters.

The maximum time consumed by essayists must not exceed fifteen minutes. This time limit, however, does not apply to invited guests. It is suggested that the salient features of papers be presented within this time, reserving the complete elaboration for publication in the Journal. Discussions will be limited to 4 minutes for each speaker.

All papers read before the Association must be deposited with the Secretary when read; otherwise, they will not be published.

During the discussion of papers, the speaker will please walk forward to the platform and announce his name and address distinctly.

Papers will be called in the order in which they appear on the program. Should a reader be absent when called, his paper will be passed, and called again when the program is concluded.

HOST TO THE ASSOCIATION

The Montgomery County Medical Society

OFFICERS

Francis M. Thigpen, *President*

Paul S. Mertins, *Vice-President*

D. B. Monsky, *Secretary*

F. C. Stevenson, *Treasurer*

BOARD OF CENSORS

Frank W. Riggs, *Chairman*

J. M. Barnes

F. M. Thigpen

Robert Parker

J. W. Davis, Jr.

OFFICERS OF THE ASSOCIATION

President

J. Paul Jones (1949) Camden

Vice-Presidents

W. R. Carter (1949) Repton

Frank Jordan (1950) Huntsville

E. L. Gibson (1951) Enterprise

J. G. Daves (1952) Cullman

Secretary-Treasurer

Douglas L. Cannon (1950) Montgomery

The State Board of Censors

E. V. Caldwell, *Chairman* (1950) Huntsville

J. O. Morgan (1950) Gadsden

E. G. Givhan, Jr. (1949) Birmingham

J. D. Perdue (1949) Mobile

John W. Simpson (1951) Birmingham

K. A. Mayer (1951)* Lower Peach Tree

T. B. Hubbard (1952) Montgomery

C. E. Abbott (1952) Tuscaloosa

French Craddock (1953) Sylacauga

John L. Branch (1953) Montgomery

State Health Officer

D. G. Gill (1952) Montgomery

*Deceased.

PROGRAM**First Day, Tuesday, April 19**

Blue and Gray Room

Whitley Hotel

Morning Session

9:00 A. M.

Call to order by the President—

J. Paul Jones, Camden.

Invocation—

Reverend D. M. Rivers, D. D., Pastor, First Baptist Church, Montgomery.

Address of Welcome—

Hon. John L. Goodwyn, Mayor of Montgomery.

Address of Welcome—

*Francis M. Thigpen, President, Montgomery County Medical Society.***PART I****REPORTS OF STANDING COMMITTEES**

1. Prevention of Blindness and Deafness—
W. B. Hardy, Chairman.
 2. Mental Hygiene—
Frank A. Kay, Chairman.
 3. Industrial Medicine—
Benjamin Meyer, Chairman.
 4. Maternal and Child Health—
T. M. Boulware, Chairman.
 5. Physician-Druggist Relationships—
R. E. Cloud, Chairman.
 6. Anesthesiology—
E. B. Robinson, Jr., Chairman.
 7. Postgraduate Study—
Ralph McBurney, Chairman.
 8. Cancer Control—
J. P. Chapman, Chairman.
(b) American Cancer Society, Alabama Division—
Mrs. Lillian G. Meade, State Commander.
 9. Tuberculosis—
Paul W. Auston, Chairman.
 10. Medical Service and Public Relations—
C. A. Grote, Chairman.
- Report of the Secretary-Treasurer—
Douglas L. Cannon, Montgomery.
- Report of the Committee of Publication—
Douglas L. Cannon, Montgomery.
- Reports of Vice-Presidents—
- (1) Southwestern Division
W. R. Carter, Repton.
 - (2) Northeastern Division
Frank Jordan, Huntsville.
 - (3) Southeastern Division
E. L. Gibson, Enterprise.
 - (4) Northwestern Division
J. G. Daves, Cullman.
- Message of the President—
J. Paul Jones, Camden.

PART II**SCIENTIFIC PROGRAM**

1. *Treatment of Malignant Melanoma—*
J. O. MORGAN,
Gadsden.
2. *Surgery of the Colon with Special Reference to End to End Anastomosis—*
EARLE DRENNEN,
Birmingham.

* * *

Afternoon Session**Tuesday, April 19**

2:00 P. M.

1. *An Easy Way to Treat Diabetic Patients—*
ERNEST H. PLANCK,
Anniston.
2. *Admissions to the Medical College of Alabama—*
STUART GRAVES,
Tuscaloosa.
3. *Rheumatoid Arthritis of the Spine—*
J. O. FINNEY,
Gadsden.
4. *The Art and Science of the Artificial Feeding of Infants—*
C. KERMIT PITT,
Decatur.
5. *The "Third Era" of Surgery of the Biliary Tract—*
SAMUEL W. WINDHAM,
Dothan.

* * *

Evening Session**Tuesday, April 19**

8:00 P. M.

1. *The More Common Rectal Conditions—*
W. J. ROSSER,
Birmingham.
2. *Eye Diseases Causing Blindness in the State of Alabama—*
ALSTON CALLAHAN,
ARTHUR F. STEINMETZ,
Birmingham.
3. *Surgery of the Stomach and Duodenum at St. Margaret's Hospital, Montgomery, During 1946, 1947 and 1948—*
LUTHER HILL,
Montgomery.
4. *The Sulfonamides in Dermatology—*
H. R. COGBURN,
Mobile.

* * *

Second Day, Wednesday, April 20**Morning Session**

9:00 A. M.

1. *Poliomyelitis: Observation, Treatment and Follow-Up, Localized Epidemics, 1937 and 1941—*
H. EARLE CONWELL,
Birmingham.

2. Subject to be supplied—
DOUGLAS BUCHANAN,
School of Medicine,
University of Chicago.
3. THE JEROME COCHRAN LECTURE
Cholecystectomy: Its Technical Variations—
MAX THOREK,
Secretary General,
International College of Surgeons,
Chicago.
4. Recognition of the Fifty-Year Club.
5. Announcement of Vacancies in the College of
Counsellors.

* * *

Afternoon Session

Wednesday, April 20

2:00 P. M.

1. *Vitamin Deficiencies as Seen in General Prac-
tice—*
CLARENCE R. BENNETT,
Eufaula.
2. *Some Difficulties in Diagnosis Resulting from
Specific Therapy—*
ROY H. TURNER,
School of Medicine,
Tulane University,
New Orleans.
3. *Bronchogenic Carcinoma—*
LAWRENCE REYNOLDS,
Wayne University College of Medicine,
Detroit.
4. *How Can the Damages of the Second Stage of
Labor Be Minimized, and When Can the
Resulting Damages Best Be Repaired—*
WILLIAM T. KENNEDY,
New York City.

* * *

Evening Session

Wednesday, April 20

8:00 P. M.

1. *The Doctor as a Citizen—*
MR. JOHN B. TURNER,
Division Manager, Alabama Division,
Arkansas Fuel Oil Co.,
Birmingham.
2. *The Profession's Plans in the Field of Public
Relations—*
MR. W. A. DOZIER, JR.,
Director of Public Relations,
Medical Association, State of Alabama,
Montgomery.
3. *What Does Your National Association Do for
the Public?*
GEORGE F. LULL,
Secretary and General Manager,
American Medical Association,
Chicago.

* * *

Last Day, Thursday, April 21

9:00 A. M.

Business meeting of the Association sitting as
the Board of Health of the State of Alabama.

1. Report of the Board of Censors;
2. Revision of the Rolls;
3. Election and Installation of Officers.

Adjournment

* * *

THE FIFTY YEAR CLUB CLASS OF 1949

Abernathy, Thomas Pennie	Mason, James Monroe
Berry, William Thompson	McConnico, Frank H.
England, John Tillman	McLester, James S.
Fields, Elbert T.	Meharg, William G.
Green, Elbert Pierce	Noel, William E.
Haralson, Thomas H.	Stansberry, Chas. Lee
Hollingsworth, Pryor L.	Thompson, Charleton
Jackson, John A.	Townsend, Alfred L.
Lull, Cabot	Underwood, Andrew Jackson
Lupton, Frank A.	Watkins, Martin L.
Martin, Thomas M.	Whorton, William W.

VACANCIES IN THE COLLEGE OF COUNSELLORS

Vacancies that will present in the College of
Counsellors at this meeting of the Association are
as follows and for the reasons set forth:

1st Congressional District—4. G. G. Oswalt is
to be elevated to Life Counsellor. J. M. Weldon's
second term of seven years has expired. The
first terms of seven years of W. J. Barber and
G. O. Segrest have expired.

2nd Congressional District—2. C. K. Weil is
deceased. C. G. Godard's first term of seven years
has expired.

3rd Congressional District—2. The second terms
of seven years of V. J. Thacker and J. S. Tillman
have expired.

5th Congressional District—2. The second terms
of seven years of W. H. Riser and B. C. Scar-
brough have expired.

7th Congressional District—1. D. H. Wright is
deceased.

8th Congressional District—2. The second terms
of seven years of Erskine Chenault and Rayford
Hodges have expired.

9th Congressional District—5. Lloyd Noland is
to be elevated to Life Counsellor. The first terms
of seven years of C. N. Carraway, H. Earle Con-
well, John W. Simpson and Frank C. Wilson have
expired.

ANNUAL BANQUET MEETING ALUMNI ASSOCIATION MEDICAL DEPARTMENT UNIVERSITY OF ALABAMA

Jefferson Davis Hotel

Wednesday, April 20th, 6:00 P. M.

Frank H. Clements

President of the Alumni Association, Presiding

Greetings from the University of Alabama—

Dr. John M. Gallalee, President.

Greetings from the State Medical Association—

Dr. J. Paul Jones, President.

Address: The New South—

Dr. J. L. Brakefield,

Manager, Industrial Division,

Birmingham Chamber of Commerce.

OTHER EVENTS

The Alabama Radiologic Society will have a luncheon meeting at the Whitley Hotel at 12:15 P. M. on Wednesday, April 20.

Individual programs to be mailed later will likely give the details of the meeting of the Alabama Pediatric Society, the Alabama Association of Obstetricians and Gynecologists, and the Alabama Association of Pathologists.

**PROGRAM
OF THE
WOMAN'S AUXILIARY
TO THE
MEDICAL ASSOCIATION OF THE
STATE OF ALABAMA**

Jefferson Davis Hotel, Montgomery

April 19, 20, 1949

President

Mrs. G. G. Woodruff..... Anniston

President-Elect

Mrs. W. J. Rosser..... Birmingham

Vice-Presidents

Mrs. W. N. Payne..... Bessemer

Mrs. Emmett Frazer..... Mobile

Mrs. Erskine Chenault..... Decatur

Mrs. T. E. Dilworth..... Huntsville

Recording and Corresponding Secretary

Mrs. N. T. Davie..... Anniston

Treasurer

Mrs. James R. Chandler..... Bessemer

Auditor

Mrs. Charles F. Lewis..... Birmingham

Historian

Mrs. DeWitt Faucett..... Gadsden

Finance Officer

Mrs. J. H. Baumhauer..... Mobile

Program

Mrs. W. D. Warrick..... Birmingham

Advisory Committee

Dr. W. Frank Jordan..... Huntsville

Dr. B. W. McNease..... Fayette

Dr. Grady O. Segrest..... Mobile

Dr. W. M. Salter..... Anniston

Dr. J. Paul Jones..... Camden

Tuesday, April 19

3:00 P. M.

Preconvention Executive Board Meeting

Mrs. G. G. Woodruff, Presiding

4:30 P. M.

Fashion Review at A. Nachman's

Wednesday, April 20

9:30 A. M.

Jefferson Davis Hotel

CONVENTION PROGRAM

Call to Order—Mrs. G. G. Woodruff, President, Anniston.

Invocation—Rev. Donald C. MacGuire, First Presbyterian Church, Montgomery.

Welcome Address—Mrs. J. W. Davis, Montgomery.

Response—Mrs. Dan Coyle, Birmingham.

Greetings from the Woman's Auxiliary to the Southern Medical Association—

Mrs. J. W. Kelso, Oklahoma City, Oklahoma.

Address—Dr. Douglas L. Cannon, Montgomery.

Reading of Minutes.

Annual Report of Officers:

President-Elect—Mrs. W. J. Rosser, Birmingham.

First Vice-President—Mrs. W. N. Payne, Bessemer.

Second Vice-President—Mrs. Emmett Frazer, Mobile.

Third Vice-President—Mrs. Erskine Chenault, Decatur.

Fourth Vice-President—Mrs. T. E. Dilworth, Huntsville.

Recording and Corresponding Secretary—Mrs. N. T. Davie, Anniston.

Treasurer—Mrs. James R. Chandler, Bessemer.

Auditor—Mrs. Charles F. Lewis, Birmingham.

Finance Officer—Mrs. J. H. Baumhauer, Mobile.

President—Mrs. G. G. Woodruff, Anniston.

Annual Report of Standing Committees:

Press and Publicity—Mrs. H. P. Dawson, Montgomery.

Public Relations—Mrs. G. W. Williamson, Bessemer.

Program—Mrs. W. D. Warrick, Birmingham.

Hygeia—Mrs. F. C. Smith, Bessemer.

Lettie Daffin Perdue Scholarship Fund—Mrs. E. S. Sledge, Mobile.

Archives and Exhibits—Mrs. B. F. Caffee, Choccolocco.

Memorial—Mrs. J. Mac Bell, Mobile.

Bulletin—Mrs. T. D. Beatty, Cullman.

Legislative—Mrs. Robert Bibb, Huntsville.

Revisions—Mrs. James L. Jordan, Huntsville.

Doctors' Day—Mrs. J. C. Chambliss, Cullman.

Jane Todd Crawford Memorial Scholarship Fund—Mrs. J. U. Reaves, Mobile.

Parliamentary Referee—Mrs. W. M. Salter, Anniston.

Annual Report of County Presidents:

Calhoun—Mrs. Knox Spearman, Anniston.

Colbert—Mrs. Loren Gary, Tuscumbia.

Cullman—Mrs. J. G. Daves, Cullman.

Etowah—Mrs. Henry Campbell, Gadsden.

Dallas—Mrs. Richard Grayson, Selma.

Jefferson—Mrs. W. N. Payne, Bessemer.

Jefferson—Mrs. Paul Woodall, Birmingham.

Madison—Mrs. Harry J. Parker, Huntsville.
Mobile—Mrs. Mac J. Roberts, Mobile.
Montgomery—Mrs. Fred D. Reynolds, Montgomery.
Morgan—Mrs. T. N. Guyton, Decatur.
Tuscaloosa—Mrs. Harvey Searcy, Tuscaloosa.
Walker—Mrs. William Ivey, Jasper.
Report of Courtesy Committee—Mrs. C. A. Willis, Montgomery.
Report of Credentials Committee—Mrs. J. S. Hough, Montgomery.
New Business.
Report of Nominating Committee.
Election of Officers.
Installation of Officers—Mrs. W. M. Salter.
Reading of Minutes.
Adjournment.

Greetings—Mrs. B. W. Cobbs, Montgomery.
Response—Mrs. Frank Jordan, Huntsville.
Address—Dr. George F. Lull, Chicago.
Introduction of Guests and Officers.
Committees—
Credentials—Mrs. J. S. Hough.
Registration—Mrs. F. M. Thigpen.
Arrangements—Mrs. K. B. Benkwith, Mrs. A. E. Thomas.
Hospitality—Mrs. C. A. Willis, Mrs. L. L. Hill.
Transportation—Mrs. Irl Long.
Press and Publicity—Mrs. H. P. Dawson.
Executive Board meeting immediately following the luncheon.

3:15 P. M.

Tour to Jasmine Hill

POSTGRADUATE SEMINAR IN UROLOGY

There will be a Postgraduate Seminar sponsored by the American Urological Association in New Orleans, April 18-21, 1949.

Dr. Hamilton McKay, who is Chairman of the Postgraduate Seminar, has made all arrangements with the Dean of Tulane University, Division of Graduate Medicine.

The basic sciences will be taught by the faculty of Tulane University and the clinical branches will be taught by urologists who are experienced teachers.

The fee for the entire course will be \$50.00 and applications will be made direct to William W. Frye, M. D., Dean of the Division of Graduate Medicine, Tulane University, New Orleans, La.

All doctors (young and old) who are interested in urology, diagnostically or otherwise, are eligible for the course. Residents in urology, who are certified as such by their Hospital Administrator, will *not* be charged tuition.

The course will begin with three days of didactic lectures and will conclude with a day of operative clinics. Outstanding teachers will conduct courses in anatomy, embryology, pathology, physiology, biochemistry, endocrinology and bacteriology.

The tuition for this course can be obtained for veterans under the G. I. Bill of Rights, through the Veterans Administration, if the veteran has proper credentials.

This will be the first urological seminar in the southeastern section. There will be a limit of 150 applicants. So, all other things being equal, the first 150 applications will be accepted.



Mrs. Gerald G. Woodruff
President of the Auxiliary
1948-1949

Wednesday, April 20

1:00 P. M.

Luncheon

Jefferson Davis Hotel

Mrs. Fred Reynolds, Presiding

Invocation—Rev. Charles S. Forester, First Methodist Church, Montgomery.

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

THE WHIPPING BOY

W. A. Dozier, Jr.

Director of Public Relations

How true to form the present campaign to socialize this country is running! First, we saw a concerted effort to cast a shadow of doubt over the medical profession. Every method was used to create doubts in the minds of the people—doubts concerning the sincerity and honesty of doctors, doubts about their ability to handle the medical care of the people in the United States. These seeds were planted well and soon began to grow. Fertilizer was needed for these budding doubts, and it was easily found in distorted facts.

What were some of these distortions? For some time it was pointed out that draft figures proved us to be an unhealthy nation. However, an analysis of these figures proved that many rejections were due to causes that medical care could not have helped. No amount of medical care could have restored a finger lost in a mowing machine. Still medical men were not doing their job because this rejectee was careless once and lost a finger! This is not an isolated example. In quoting the figures only the total numbers were used and no qualifying facts were pointed out.

Another side-step was neatly effected. The report by the Brookings Institute, "The Issue of Compulsory Health Insurance," was ignored. The fact that this report by an independent agency pointed out the inadvisability of compulsory health insurance and the fact that voluntary health insurance was quickly filling the gap were ignored. Instead a National Health Assembly was called.

The facts and findings growing out of this Health Assembly were supposedly taken as a basis for Mr. Ewing's report to the President, "The Nation's Health." Please note the use of the word supposedly. The recommendation for national compulsory health insurance came from Mr. Ewing and not from the National Health Assembly. If one reads very carefully this voluminous

report, he will find that Mr. Ewing admits this. However, to a casual reader the conclusions reached in "The Nation's Health" have received the weight of backing by the National Health Assembly!

Now we have reached the stage where medical men as organized medicine have become the whipping boys, and medical care has become the main issue of the day. Two things become evident. It is hoped by the plotters that physicians can be bested in their efforts to protect the people from political medicine. But there is also a diverting tactic in evidence. If attention can be completely placed on this one question, other opening wedges can be made along socializing lines. Note for example the proposed plan for the government to go into business in a complete manner and build factories.

The point for emphasis here is that though you in the medical field are the center of attention right now, you are by no manner of means the only ones on the roster of those to be dominated. The facts in this article and in the one last month need to be pointed out to your friends in business and industry. Let us not sleep too long and expect John to do it. Now that you are the whipping boy, begin screaming—screaming facts which tell the story to those who will suffer, the people of our country.

Salt Substitutes—The American Medical Association and the Food and Drug Administration have issued warnings concerning the use of preparations that have been sold as salt substitutes. These warnings were based on reports of several deaths which, it is claimed, followed the use of preparations containing lithium chloride. Certain therapeutic measures require the restriction of sodium chloride in the diet, which patients who prefer food flavored with salt do not relish. To provide flavoring, some manufacturers have made available salt substitutes, at least several brands of which contained lithium chloride, which now is known to possess harmful possibilities . . . The early symptoms of lithium poisoning are similar to the symptoms of heart and kidney diseases which require a salt-free diet, and include drowsiness, weakness, loss of appetite, nausea, tremors and blurring of vision.—J. A. M. A., Feb. 26, '49.

WOMAN'S AUXILIARY

Mrs. G. G. Woodruff, Anniston, President

A MESSAGE, DOCTOR, TO YOUR WIFE (For counties where there is no Auxiliary)

This letter is for your wife, sister, mother, or grown daughter, who is eligible to membership in our Woman's Auxiliary. We regret that there is no Auxiliary in your county, but that need not keep her from being a member of the state and national organizations. Since the Woman's Auxiliary offers the American Medical Association its full and complete cooperation in carrying out all of its plans for public relations and public health work, as well as in its philanthropic endeavors, we believe it important that all doctors' families take part in this organization.

Will you, therefore, please take this Journal home to her, and encourage her to join?

Dear Eligible Member:

The medical profession faces many situations, both nationally and locally. It is important that it be united, and the Woman's Auxiliary to the Medical Association of the State of Alabama offers this unity and information to members of the Auxiliary.

We provide a membership-at-large to doctors' families in counties where there is no Auxiliary.

If you join the State Auxiliary as a member-at-large you may affiliate if you care to with an Auxiliary in a neighboring county. You may also attend the state convention of the Auxiliary as a member. In becoming a member of the state and national Auxiliaries you have your share in all the good work they are doing. You may become such a member by sending your name and address, and that of your doctor who is a member of the State Medical Association, with your dues to me or our Treasurer.

The Auxiliary exists principally for public relations. We are the public relations of the Medical Societies. Physicians' families should be well informed and should be working quietly wherever they go—and they are represented in many organizations, such as the P. T. A., women's clubs, League of Women Voters, American Association of University Women, etc. We are in favor of the A. M. A. Twelve-Point Plan for Health Legislation. But do you know those plans, and why you are for or against? We are a hindrance rather than a help if we do not know the answers. A few women have been carrying on the work of the Auxiliary for years. Others have been "going for a free ride." I think every one of you will be willing to give a few hours of your time for reading Auxiliary literature, in order to do

your share for the medical profession. Won't you send in your dues today?—\$1.50 for members-at-large where there is no Auxiliary. Dues are to be sent to Mrs. J. R. Chandler, State Treasurer, South 14th Street, Bessemer.

Sincerely,
Camilla Rosser, (Mrs. W. J.),
President-Elect and
Organization Chairman,
721 Hanover Circle,
Birmingham.

LET'S ORGANIZE AN AUXILIARY (In counties without one)

My dear Mrs. Helper:

We should like very much to have you call together the wives of the physicians who belong to your County Medical Society. The object of the meeting would be to organize a county Auxiliary in connection with the state and national Auxiliaries.

Your first step would be to secure the approval of your County Medical Society and ask it to appoint an advisory council of three to five members from its membership before you proceed with *definite organization*. For a small group of less than twenty-five, one advisor is best.

Physicians' wives of today have a tremendous responsibility which cannot be met by other people. It is our duty to organize Auxiliaries and provide leadership in the various communities in dealing with health and medical care problems.

The program of your Auxiliary will be what you choose to make it. It would be worth while if only to promote good will among the families of physicians. There are, however, more important reasons for an Auxiliary in this day of world emergency.

Auxiliaries are asked to follow the suggestions of the State and National Program Chairmen for SELF-STUDY PROGRAMS to inform themselves about the profession's programs of public health and also about legislation affecting the medical profession.

We should like to stress the following: Study of the National Compulsory Health Insurance Bill; the platform of the American Medical Association as found in its February 19 Journal; and proposed legislation in your State Legislature.

Small dues of two dollars per capita per year would enable you to pay the \$1.00 required by the national Auxiliary, and the balance could be divided between your state and county to carry on the work you elect to do. Larger dues are desirable so that counties may have some capital for working principal. You may make the dues anything you want—\$2.00 or \$3.00, to include local, state and national.

If you feel that your group will be interested, we shall be glad to take the matter up with you in detail. Surely it would be an honor if you were to have the privilege and satisfaction of establishing an organization in your county which would stand for the principles of better health, and a better understanding of the objectives toward which the State Medical Association and its Auxiliary are working.

Will you kindly give this matter your most

careful consideration, and may we, at your earliest convenience, hear from you concerning your interest in organizing a new auxiliary?

Cordially yours,
Mrs. W. J. Rosser,
Organization Chairman,
Mrs. W. N. Payne, Bessemer,
Mrs. Emmett Frazer, Mobile,
Mrs. T. E. Dilworth, Huntsville,
Mrs. E. M. Chenault, Decatur.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

D. G. Gill, M. D.
State Health Officer

YOUR HOSPITAL OF THE FUTURE

Alabama is becoming more and more hospital-minded. During the past year or two many of our communities have awakened to their long-existing need for better facilities for the care of their sick and injured. Some—far too few, unfortunately—have taken the first important steps necessary to provide those facilities. Others have considered the difficulties involved in doing so and have done little or nothing about the matter. Nevertheless, a real beginning has been made in improving this state's low standing, hospitalwise, as compared with those of other states.

There have been a number of explanations for this hospital renaissance. The state's public health agencies have been telling the people about the need for improved hospital facilities for years. They have told them that providing better hospitals and more of them is one of the best possible ways to attract physicians to communities where more doctors are badly needed. They have emphasized the importance of hospital facilities as a means of making the doctors already in practice more efficient. They have pointed to the part hospitals play in protecting individuals and whole communities in time of epidemics and at ordinary times.

The state's physicians, as individuals, also have been telling our people about the need for hospitals. So has the medical profession as a body. So have many others—both individual citizens and patriotic groups.

But the greatest single impetus undoubtedly has been provided by the Hill-Burton

Act. That measure, co-sponsored by Alabama's senior Senator, provides substantial financial aid to communities wishing to construct and equip non-profit hospitals and public health centers. Specifically, it allows the U. S. Public Health Service to contribute as much as one third of the total cost of such structures. Applications have to be approved by the State Health Officer and then by a representative of the Surgeon General of the U. S. Public Health Service. Naturally, certain standards of construction must be met. The Federal officials must also be convinced that a proposed hospital or public health center will properly serve the needs of its community.

Alabama's increased hospital-mindedness has caused our people to pay more attention to the part a hospital plays, or should play, in the life of a community. They have begun to think of it more in terms of a community center. They are beginning to regard it more and more as a place of service to the well, no less than to the sick. They, in brief, have reorganized their thinking as it affects these vital places of healing. As a well known hospital authority recently said, "the hospital should become the nerve center for all community health efforts."

The hospital of tomorrow cannot survive in a little world of its own. It must fit into the big, broad, vital world of the entire community, state and nation. It dare no longer be an isolated, insulated and self-contained institution. It must get away from its long-maintained status as the proverbial tub standing on its own bottom. It must, in many cases, extend its field of service far beyond its former limits. It must open its doors to the sick and injured of other communities. The welcome and healing touch must be

shown even to those from distant towns and rural sections.

The hospital of the present faces many challenges that did not concern those of an earlier generation. The hospital of the future will face challenges that are not known by those of our day.

One of the most important of those challenges is the finding of ways and means of speeding up the practical application of newly discovered products and principles. Nowadays, many years may elapse between the time a revolutionary new discovery is made and the time when our people begin to obtain substantial, practical benefit from it. And you do not need to be told that every week's delay may mean the loss of hundreds or thousands of lives. It does little or no good for an English medical scientist to give the world penicillin unless and until this "miracle drug" can be used on patients suffering from the diseases it cures. People continued to suffer from syphilis for many years after a German scientist developed the means of curing it. They continued to pay the heavy penalty of ignorance of their true condition long after another scientist developed the test that gives a reliable answer to the question as to whether one has, or does not have, the disease. Diphtheria did not lose any substantial amount of its killing power as soon as diphtheria antitoxin was discovered. The discovery of the diphtheria-preventing alum precipitated toxoid had little, if any, immediate effect upon diphtheria incidence or mortality. It was not until later, much later, that these great lifesavers began to play an important part in the health of our people. Those intervening years were spent in processes considered essential to a bridging of that gap.

No one with the interest of his fellow-man at heart would want that bridge made too short. It certainly would be a great mistake to leave out even one essential plank. The progress of medical science might be set back many decades if a newly discovered product were to be manufactured and distributed wholesale before it has been subjected to the severest tests. But it is entirely possible that that testing-out process can be shortened without being made less efficient. The world's sick and injured probably can get the benefit of life-saving processes and products much more quickly than they are

getting them at present, without loss of anything but time, cost and effort. The task of bringing humanity that great boon might well be assumed, at least in part, by the nation's hospitals.

This and other great services can be accomplished much more expeditiously if hospitals completely forget their past isolationism and think of themselves as parts of a great community team. There needs to be a free interflow of personnel. Knowledge acquired at one should be made freely available to others. Institutions with special equipment which others cannot afford should not guard it with the alert watchfulness of those protecting the secrets of the atomic bomb. Rather, they should be willing for it to be used on a sharing arrangement agreeable to all and beneficial to the community's sick and injured. Staff members of one institution should learn freely from the resources available at other institutions. Whenever practicable, there should be a selectivity of patients. Instead of going to a particular hospital because it is a little nearer or more convenient than others, a person should select his hospital on the basis of its ability to treat the particular condition from which he is suffering. One that has built up an unusually strong staff in obstetrics, for example, should provide a major share of a community's obstetric care. Another hospital might concentrate upon childhood diseases. This is true of course only in those communities in which there are several hospitals. In single-hospital communities all patients should be sent there, except when a type of service is required which that hospital is not able to provide.

Although there will continue to be an important place in the nation's health-protection set-up for specialized hospitals, the set-up itself will be centered in the general hospital. It is the general hospital that is prepared to treat almost any type of disease or injury. It is true it cannot treat certain types as well as institutions treating those types exclusively. But it can provide, even in those cases, sufficiently expert care at least to save the patients' lives in an emergency. And for the general run of human misfortunes it is in a position to provide all that is needed. Its medical staff is able to treat practically any condition that may cause a mother to call her family physician

in the middle of the night. Its surgeons can perform most types of surgery, major as well as minor. Its physicians can handle in their stride the pneumonia, influenza and diphtheria cases that require hospitalization. They can treat the day-to-day injuries that children receive at school and in traffic. Their individual and pooled professional knowledge is all that is needed in most cases of heart disease, conditions involving the kidneys, and intestinal upsets.

The general hospital also has an important place with relation to the specialized hospitals. Many tuberculosis patients, for example, also suffer from other conditions. These need to be corrected before a real start can be made in recovering from their tuberculosis. Most of them, it is true, are easily handled by the tuberculosis specialists in charge of these patients (since these specialists took general medical courses before specializing in tuberculosis). Nevertheless, their knowledge of general medicine is necessarily limited. It is inevitable that, from time to time, they should be "stumped." At such times they need to have a wide-open door between them and the staff physicians of the general hospitals. If laboratory or diagnostic techniques which their relatively small institutions lack are available at the large general hospitals, they should be placed at their service.

The same is true of the relationship of the general hospital to mental hospitals. Broadly speaking, the millions of our fellow-Alabamians and fellow-Americans who are mentally sick represent otherwise a broad cross-section of our state's and nation's general population. They are typical Alabamians and typical Americans. They go to those institutions from homes very much like those on the same block as your own. They represent your profession, as well as many others. And, particularly important from the point of view of our present discussion, their general health is not essentially different from that of almost anyone else you might name at random. Like our illnesses, those they have can usually be treated successfully by a physician without considerable experience in treating such conditions. But occasionally a mental patient, like someone not in an institution of that kind, develops a disease or suffers an injury that calls for knowledge or physical facilities not

available at a mental hospital. At such times the general hospital should stand ready to do what it can to save a life or prevent a deformity.

Unquestionably, the hospital of the future will pay more attention than has been paid in the past to preventive medicine. Emphasis will be placed upon the fence at the edge of the precipice, as well as upon the ambulance down in the valley. Greater importance will be attached to the outpatient department. Patients occupying beds will represent a rapidly decreasing percentage of all those served. Those who are presumably nearly well will be encouraged to regard it as a friendly place to go from time to time to find out how well they really are. If they find they are not as well as they should be, they will be urged to take such corrective steps as may be indicated to restore them to normal health. In most cases, physical defects thus revealed are not serious. Their correction usually can be accomplished with little, if any, absence from one's regular work. The cost should not be much. Particularly important, the patients seldom need to receive regular hospital care. In those rare instances where this is not true, they will enter these institutions of healing with little or none of the horror which many people still associate with hospital residence. They will go with the knowledge that they will be among friends whom they have known for some time.

But of course a hospital's outpatient department is for the use of those who need treatment as well as diagnostic service. There the person with a broken arm gets an x-ray and gets it set. Someone who is sick but not sick enough to go to bed gets routine examinations and routine treatment. Hospital physicians take the all-important stitch in time. At the outpatient clinic the small injury or minor illness is prevented from progressing into one that may prove fatal or at least serious.

Yes indeed, the hospital will play a much more important role in the life of the community in the future than it has played in the past. It will need, and do much to earn, community good will. It is that kind of hospital that Alabama is building under the provisions of the Hill-Burton Act. It is that kind that will be built in increasing numbers in the years to come.

BUREAU OF LABORATORIES

H. P. Sawyer, M. D., Director

SPECIMENS EXAMINED

DECEMBER 1948

Examinations for diphtheria bacilli and Vincent's	470
Agglutination tests (typhoid, Brill's and undulant fever)	774
Typhoid cultures (blood, feces and urine) ..	308
Examinations for malaria	270
Examinations for intestinal parasites	2,995
Serologic tests for syphilis (blood and spinal fluid)	23,997
Darkfield examinations	15
Examinations for gonococci	2,029
Examinations for tubercle bacilli	2,148
Examinations for meningococci	1
Examinations for Negri bodies (microscopic)	72
Water examinations	1,176
Milk and dairy products examinations	3,944
Miscellaneous	323
Total	38,522

* * *

YEAR 1948

Examinations for diphtheria bacilli and Vincent's	5,342
Agglutination tests (typhoid, Brill's and undulant fever)	13,525
Typhoid cultures (blood, feces and urine)	7,433
Examinations for malaria	7,622
Examinations for intestinal parasites	41,066
Serologic tests for syphilis (blood and spinal fluid)	342,581
Darkfield examinations	255
Examinations for gonococci	31,218
Examinations for tubercle bacilli	31,123
Examinations for meningococci	30
Examinations for Negri bodies (microscopic)	1,240
Water examinations	15,905
Milk and dairy products examinations	41,593
Miscellaneous	6,081
Total	545,014

Time lost in a case of tuberculosis can never be regained. The patient often looks fit; he may be well nourished and have no physical signs; but he has a history to relate or he would not have sought advice. It is upon suggestive symptoms alone that prompt radiography must be ordered.—*Peter Stradling, M. D., Brit. M. J., Nov. 6, 1948.*

Pulmonary tuberculosis in the old is usually of insidious onset and may be completely masked by other disabilities, or often ignored until either an intercurrent illness or a sudden increase in activity of the tuberculosis leads to an illness which may, even at this stage, be treated as nothing out of the ordinary in an aged person. In such cases pulmonary changes may be gross before tuberculosis is diagnosed.—*F. J. Hebbert, M. D., The Lancet, Aug. 14, 1948.*

BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

1948

	Nov.	Dec.	E. E.* Dec.
Typhoid	6	3	4
Typhus	13	5	41
Malaria	10	4	118
Smallpox	0	0	0
Measles	135	398	56
Scarlet fever	96	71	109
Whooping cough	21	23	92
Diphtheria	110	61	62
Influenza	55	99	447
Mumps	22	47	49
Poliomyelitis	5	11	3
Encephalitis	0	0	1
Chickenpox	128	215	107
Tetanus	4	4	2
Tuberculosis	227	151	218
Pellagra	1	0	4
Meningitis	11	5	6
Pneumonia	108	164	286
Syphilis	639	705	1193
Chancroid	9	6	15
Gonorrhea	367	306	464
Tularemia	4	3	1
Undulant fever	3	4	7
Amebic dysentery	2	0	0
Cancer	319	218	0
Rabies—Human cases	0	0	0
Positive animal heads	20	22	0

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF SANITATION

Arthur N. Beck, M. S. in S. E., Director

RESEARCH IN SANITATION

Contributed by

Robert V. Barnes, M. S. E.
Prin. San. and Pub. Health Eng.

Many years have passed since the basic concepts of present day sanitation were adopted and placed in practice in Alabama. The wisdom of these original assumptions has been substantiated by the excellent service given by the sanitation through the intervening years. The plans and specifications promulgated in 1927 were the result of years of study and experience. These recommendations have not been materially changed since the above date. The development of new materials and methods has caused questions to arise openly and in our minds regarding their adaptability for use in the field of environmental sanitation.

Aluminum is one such material which has had the attention recently of many agencies and industrial concerns. It offers certain possibilities for adaptation to sanitation activities. For several years the high cost of the metal prohibited its use or even trial. During the war, facilities for the production of aluminum were so greatly increased that the availability of large supplies has reduced

the price until it is feasible to consider the metal for many uses heretofore out of the question.

In order to explore the possibility of using aluminum in the manufacture of risers for use in pit privy sanitation, a visit was made to the Reynolds Metal Works at Lister Hill, Alabama (Colbert County) the early part of 1948. While there, the officials of the Reynolds Metal Works were acquainted with problems in connection with sanitation and the adaptability of aluminum for the use in question was discussed. The officials did not see why castings could not be made. However, as no research work had been conducted on the metal for this specific use, the durability of aluminum when exposed to field conditions of pit privy sanitation was not known. The Reynolds Company offered to make available to the State Health Department 500 pounds of casting alloy No. 319 at 17c per pound for such research work. This alloy was considered the best type for the use intended.

With this basic information at hand, the Bureau of Sanitation was granted permission to proceed with the project. Arrangements were made with the Andalusia Iron Works, Andalusia, Alabama, to make twelve (12) aluminum risers for use on the project.

It was concluded that more reliable and definite conclusions regarding the use of aluminum for risers could be obtained by varying the treatment or coating. Therefore, one-third of the risers were left untreated, one-third of them were treated in the same manner as cast iron risers (with hot asphaltic dip), and the remaining third were painted only on the inside, with a primer and then an automotive enamel, black in color. In this way, if a coating is necessary, the best type coating may be determined.

One set of these risers, untreated, dipped and painted, has been placed in Mobile, Covington, Montgomery and Lauderdale Counties. When all have been installed, periodic inspections will be made to determine how well they are standing up under field conditions. Sufficient time will be permitted to make definite determinations and conclusions regarding the use of aluminum in this field.

In connection with the above project, a decision was made to do additional research on ventilation of the pits. The vent pipe on

the cast iron riser is one of the weakest points in present day sanitation construction. To ascertain, if possible, whether or not this item is necessary, the vent pipe was left off the above experimental risers.

Should aluminum prove adaptable to pit privy sanitation, the possibilities for its use in this field are very wide. The Bureau looks forward to the time when this type sanitation can be more completely commercialized, for it is felt that in this way the efforts of sanitation personnel may be multiplied.

Research work is also in progress on the design and function of the septic tank and disposal field for the family-size installation. For the first time, a comprehensive study is being made of this subject. The project is being conducted by the U. S. Public Health Service at its Cincinnati Environmental Health Center, and sponsored by the Housing and Home Finance Agency. The work is being done at the Cincinnati Laboratories and also in the field. Tanks with different sizes, shapes and capacities are being dosed at definite intervals with sewage, and checks are being made on their performances. Field investigations have been made by actually opening septic tanks and disposal fields. By procuring adequate data regarding these installations, their performance over a period of years may be checked. In this way, it is hoped that definite conclusions may be drawn regarding the optimum size of tank to be used. All information released thus far tends to indicate that the family-size tank recommended by the Bureau of Sanitation falls very nearly into this category. However, many more investigations must be made before a conclusive statement in this connection can be made.

Considerable trouble has been experienced in the past in locating the disposal fields for large school or institutional septic tanks so that excessive cuts are not encountered. The ideal location for such a field, after fall from the tank has been procured, is a level area large enough for the installation. Deep cuts in disposal lines not only increase the cost of the construction but also impair the action of the field. At depths greater than three or four feet, only a limited number of the helpful soil bacteria are present to assist the field in its function. To overcome this difficulty the Bureau of Sani-

tation is giving consideration to the use of a subsurface filter which will occupy much less space and reduce the cost caused by the undesirable location. Plans have been made to install some of these filters in various parts of the state and then both observe their action and make laboratory tests to determine their performance as compared to the conventional type disposal field. Some of the filters have been installed, others are in process of construction, and still others are being planned. Only a sufficient number to determine the comparative operation of the filters will be constructed. As factual data become available concerning these installations, a more detailed report concerning this research will be made.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

MATERNAL DEATHS IN ALABAMA

Contributed by

Stanley W. Laird, A. B.

Principal Statistician

The year 1947 witnessed the greatest baby boom in the history of America, and Alabama produced its full quota of the new arrivals. A total of 87,242 live births was recorded in this State, giving a birth rate of 28.8 per 1,000 population.

This rate reflects the vitality of our people, but it was achieved at a cost of the lives of 230 mothers. For every 379 children born a mother gave her life. Maternal deaths claimed 97 white women and 133 Negroes. The death rates for white and colored, respectively, were 1.7 and 4.4 per 1,000 live births. These Alabama rates were somewhat higher than the national rates. For the United States the latest (1946) death rates from diseases of pregnancy, childbirth and the puerperium were 1.3 and 3.6 for white and colored, respectively. While the rates for Alabama are far too high, they show much improvement since 1929, when the rate was 9.5. This reduction was slow and irregular prior to 1941, but during the last seven years the decrease has been accelerated. For 1947 the total rate (all races) had declined to 2.6 per 1,000 live births—a reduction of 50.9 per cent since 1941. With a single exception (1946, when the rate was 2.5), the 1947 maternal rate was the lowest ever recorded in Alabama.

The reduced toll of two-hundred-thirty deaths does not seem an impressive number when compared with the thousands of deaths from such causes as heart disease (there were 5,983 deaths from heart disease in 1947); but in terms of years of life sacrificed, the loss per maternal death was much greater, since three-fourths of the heart disease victims were 55 years old or over while all those who died from maternal causes were under 55, and over half were under thirty. In addition each maternal death disrupts a home and deprives a young baby (and often several other children) of the care and love of a mother.

Toxemias of pregnancy and childbirth comprised the leading cause of maternal mortality, resulting in 75 deaths (32 white and 43 colored) with a rate of 0.9 per 1,000 live births. Included in this total are 43 deaths from eclampsia, 15 from albuminuria and nephritis and one death from acute yellow atrophy of the liver. The death rate from toxemias has been reduced by 52.6 per cent since 1941, and further reductions will undoubtedly result from the prenatal care which an increasing proportion of the prospective mothers in Alabama are receiving.

Puerperal septicemia accounted for almost one-fourth (24.7 per cent) of all white maternal deaths in 1947 and for over a fifth (21.8 per cent) of all colored maternal deaths. There were 53 deaths attributed to this cause, 24 white and 29 colored. Further efforts are being made to reduce these numbers; however, the death rate from puerperal septicemia has improved more rapidly than the rate for all puerperal causes combined. Twenty years ago (1927) there were 171 septicemia deaths and the rate was four times as high as it is at present. Since 1941 a 62.5 per cent decrease in the septicemia mortality rate has been realized, chiefly due to the increased number of births attended by physicians and the widespread use of the sulfa drugs and penicillin.

Hemorrhage of pregnancy and childbirth ranked third, with 39 deaths and a rate of 0.4. This total includes 9 deaths from placenta previa, 4 from premature separation of the placenta, and 26 from other and unspecified types of hemorrhage. In addition to the causes already mentioned, abortion caused 23 deaths, ectopic gestation 13, other

diseases, accidents and conditions 26, and unspecified conditions 23.

There is a marked variation in the maternal mortality rate depending upon the age of the mother. In 1947 the median age of all Alabama women giving birth to children was 24.7 years. This median age was 24.9 years in 1937. The largest number of children (6,114) were born to women 20 years of age. For colored women the modal age was nineteen. Birth certificates listed five mothers as twelve years of age, 53 as thirteen, 1,072 as under sixteen, and 190 as forty-five and over.

Death rates from diseases associated with pregnancy and childbirth were lowest for mothers in the 20-24 year age group and increased for each age group younger and older. Women aged 20 to 24 gave birth to 28,118 babies in 1947 with a maternal death rate of 1.5 per 1,000 live births. For the 16,-455 mothers under twenty the death rate was 2.2; while for those 25-29 the rate (2.0) was only one-third higher than that for the 20-24 group. A total of 109 deaths occurred among the 22,056 mothers aged thirty and over, and the maternal death rate was 4.9.

Although the 1947 maternal death rate was slightly above the rate for 1946 (2.6 for 1947 as compared with 2.5 for 1946), the outlook for the future is encouraging especially in view of the increased recognition by the public of the value of prenatal care, the growing demand for medical attention at the birth of a child, and the current program to expand hospital facilities.

The percentage of babies born in hospitals has more than doubled since 1941. In that year 24.2 per cent of the resident live births occurred in hospitals, while in 1947 the percentage had increased to 54.2. For urban residents 75.7 per cent of the births occurred in hospitals. The proportion of rural babies born in hospitals was less (42.3 per cent), but the increase there has been greater. The percentage of births occurring in hospitals to mothers residing in rural areas in 1947 was more than three times that for 1941. For the State the percentage of resident births attended by physicians increased from 68.8 in 1941 to 78.3 in 1947. These improvements should not, however, cause us to forget that in 1947 midwives delivered more than one-fifth of all babies born in Alabama and more than one-half of all Negro babies.

The increased number of hospital deliveries during recent years has been, to a large degree, a consequence of the Emergency Maternal and Infant Care Program which provided medical services and hospital confinement for many maternal patients who did not have the financial means to pay for it. Now that this program is no longer operating, some of the gains which have been made in saving maternal and infant lives may be lost, especially among the Negro mothers who will have to depend heavily upon midwife care, unless prenatal clinics and adequate medical services can be continued.

The spectacular results achieved during 1947 by Alabama's public health clinics for expectant mothers illustrates the possibilities for reducing maternal death rates through adequate prenatal care. Statistics compiled by the Bureau of Maternal and Child Health show that the maternal death rate for expectant mothers attending the clinics was 1.2 per 1,000 deliveries, or exactly one-half the rate for deliveries in those cases where the mother had not attended a clinic. The rate (4.6) for Negro women not attending clinics was more than three and one-half times as high as that (1.3) for those who did attend.

The maternal death rate has declined rapidly during the war and postwar years despite a shortage of hospital facilities, physicians and nurses. That a further reduction is possible, however, with the extension of prenatal attention and improved obstetrical service is shown by the lower national rates and by the results attained through prenatal clinics conducted in Alabama by the health departments. For the United States in 1946 (the latest year for which tabulations have been completed) 94.6 per cent of all births were attended by physicians as compared with 76.7 per cent in Alabama for the same year. Toxemias, septicemia, and hemorrhage were the chief causes of maternal deaths. Women in the 20-24 year age group experienced the smallest maternal death rate, and the rates increased with each age group younger and older. In order that this payment in mothers' lives for the bearing of children may be made as small as possible, the goal for medical and public health workers in the years ahead should be to see that every Alabama mother receives adequate medical attention, before, during, and after childbirth.

PROVISIONAL BIRTH AND DEATH STATISTICS FOR NOVEMBER 1948, WITH COMPARATIVE RATES

Live Births, Stillbirths, and Deaths by Cause	Number Registered During Nov. 1948			Rate* (Annual Basis)		
	Total	White	Colored	1948	1947	1946
Total live births	7464	**	**	29.9	26.3	32.3
Total stillbirths	176	**	**	23.0	30.2	19.9
Deaths (exclusive of stillbirths)	2117	1230	887	8.5	8.2	7.9
Infant deaths:						
under one year	272	138	134	36.4	36.0	30.4
under one month	188	104	84	25.2	26.6	21.8
Deaths by Cause						
Typhoid and paratyphoid fevers 1, 2	1		1	0.4		0.4
Cerebrospinal meningitis 6	3	1	2	1.2		1.6
Scarlet fever 8	1	1		0.4		
Whooping cough 9	3	2	1	1.2	2.0	1.2
Diphtheria 10	6	3	3	2.4	0.8	1.2
Tuberculosis, all forms 13-22	67	35	32	26.9	28.5	40.1
Malaria 28	1	1		0.4	0.4	0.4
Syphilis 30	12	4	8	4.8	10.4	8.9
Influenza 33	12	7	5	4.8	6.4	7.3
Measles 35					0.4	0.4
Cancer, all forms 45-55	223	167	56	89.4	68.6	73.8
Rheumatic fever 58	2	2		0.8		
Diabetes mellitus 61	35	23	12	14.0	8.4	9.3
Pellagra 69	7	5	2	2.8	4.4	1.6
Alcoholism 77	3	3		1.2	0.4	0.4
Intracranial lesions 83	212	118	94	85.0	79.0	79.8
Other diseases of nervous system 80-82, 84-89	35	22	13	14.0	***	***
Diseases of the heart 90-95	528	322	206	211.7	208.1	182.8
Diseases of the arteries 96-99	19	16	3	7.6	12.8	10.9
Other diseases of the circulatory system 100-103	8	4	4	3.2	***	***
Bronchitis 106	8	5	3	3.2	0.8	2.4
Pneumonia, all forms 107-109	96	47	49	38.5	28.5	27.2
Diarrhea and enteritis, under 2 years 119	14	4	10	5.6	3.2	4.5
Diarrhea and enteritis, 2 years and over 120	1		1	0.4	1.2	2.0
Appendicitis 121	8	5	3	3.2	2.0	3.6
Hernia and intestinal obstruction 122	12	3	9	4.8	4.4	5.3
Cirrhosis of the liver 124	6	4	2	2.4	5.2	3.2
Nephritis, all forms 130-132	150	76	74	60.1	68.6	51.1
Other diseases of the genito-urinary system 133-139	16	10	6	6.4	***	***
Diseases of pregnancy and childbirth 140-150	11	5	6	14.4	20.7	14.8
Puerperal septicemia 140, 142a, 147	1	1		1.3	3.0	4.9
Congenital malformations 157	35	25	10	4.7	***	***
Suicide 163, 164	12	10	2	4.8	9.2	6.9
Homicide 165-168	32	6	26	12.8	15.2	15.4
Accidental deaths 169-195	164	111	53	65.8	64.2	73.8
Motor vehicle accidents 176	70	52	18	28.1	29.3	26.3
All other defined causes	231	141	90	92.6	133.9	122.0
Ill-defined and unknown causes 199,200	143	42	101	57.3	48.5	52.3

*Birth and death rates per 1,000 population; infant death rate per 1,000 live births; stillbirths per 1,000 total births (stillbirths included); specific causes per 100,000 population; puerperal causes per 10,000 total births. All rates are based upon the November report of the years specified.

** Not available.

***Included with "All other defined causes" in 1946 and 1947.

ity for the first few years in tetralogy of Fallot. The cyanosis is produced partly by mixture of venous and arterial blood through a high interventricular septal defect associated with an aorta displaced toward the right so that it overrides the septal defect, and partly by stenosis or atresia of the pulmonary artery resulting in decreased blood flow to the lungs and consequent poor oxygenation.

Symptoms are mainly due to anoxia and to widespread thrombosis, especially in cerebral and pulmonary vessels. In infancy there may be attacks of loss of consciousness or convulsions from cerebral anoxia. There is usually definite retardation in growth and development; attempts to walk are delayed and later there is low tolerance to exercise, not so much from dyspnea as from fatigue. A characteristic trait of children thus afflicted is "squatting" to rest at frequent intervals.

Physical signs are striking. There is cyanosis of lips and nail beds, intensified by exertion or crying. Conjunctivas and scleras are injected. Fingers and toes become clubbed at an early age. A systolic murmur is heard at the base of the heart, and occasionally a thrill. Blood examination shows marked polycythemia, red blood cell counts often reaching eight or nine million per cubic centimeter with correspondingly high hemoglobin reading. The hematocrit is high.

Roentgen-ray findings are indispensable in arriving at a correct diagnosis. The heart is normal in size and may be normal in shape but usually shows a characteristic concavity in the region of the pulmonary artery segment. This, combined with a slightly raised apex indicating right ventricular hypertrophy, produces the typical "boot-shaped" heart which is practically diagnostic. In addition the small size of the pulmonary artery is shown by an abnormally clear "pulmonary window" as seen in the left anterior oblique view of the heart. An important roentgen finding is unusual clearness of the lung fields and absence of visible pulsations in the lungs. In about 20 per cent of cases there is a right sided aortic arch.

The electrocardiogram regularly shows right axis deviation.

No curative treatment is available for cyanotic heart disease as for patent ductus arteriosus and coarctation of the aorta. The brilliant work of Taussig and Blalock, first on experimental animals and then on human subjects, has proved, however, that low oxygen saturation of the blood can be improved or completely relieved. This is accomplished by the construction of an artificial ductus arteriosus, formed by anastomosis of a branch from the aorta to one of the pulmonary arteries. The operation as developed by Blalock has a number of possible variations depending on the side on which the aorta descends, the size of the pulmonary artery, and the availability of a systemic vessel. The most efficient anastomosis is that made with the end of the subclavian branch of the innominate artery to the side of the right or left pulmonary artery.—*Duckett, Texas State J. Med., Feb. '49.*

Congenital Heart Defects—Cyanosis is noticed soon after birth and gradually increases in sever-

AMERICAN MEDICAL ASSOCIATION NEWS

AMERICANS BETTER NOURISHED THAN IN PREWAR YEARS

The American people are decidedly better nourished than they were before World War II, despite the high cost of living, according to a report of the Council on Foods and Nutrition of the American Medical Association.

The report, appearing in a recent issue of The Journal of the American Medical Association, was written by Esther F. Phipard, Ph. D., and Hazel K. Stiebeling, Ph. D., Washington, D. C.

The average nutrient level in this country dropped somewhat in 1948 from the peak reached in 1945 and 1946, but was still high enough to be a decided improvement over pre-war levels and "exceedingly liberal" compared to that of most other countries, the authors say.

One of the most important changes for improved nutrition in the diet of Americans is the increased use of milk, they report.

"Reinforcing the upward trend since 1909 in the consumption of milk products such as cheese, ice cream, evaporated and dried milk, the use of fluid milk rose sharply during the early war years," they say.

"In terms of total milk equivalent, consumption of milk and its products other than butter averaged nearly three cups per day per person in 1945—as compared with less than two cups in 1909. As a result there was an increase of 40 per cent in the calcium content of the per capita food supply and a considerable increase in riboflavin."

Consumption of citrus fruit and of leafy, green, and yellow vegetables also has shown an upward trend during these years, according to the report.

"More than four times as much citrus fruit was consumed in 1945 as in 1909. Yearly per capita consumption of meat, poultry, and fish averaged 165 pounds or more in the period 1944 to 1947, compared with 137 pounds in the prewar years, 1935-1939," the authors say.

Consumption of grain products and potatoes has declined considerably since 1909, although the downward trend was arrested

during the war years, when supplies of fat and sugar were somewhat restricted, they point out.

For several nutrients the most striking increase has come since 1940. Higher levels of vitamin A and ascorbic acid can be associated with the increased consumption of vegetables and fruits.

The greatest increases were in thiamine, niacin, riboflavin, and iron, which were higher by a third to a half than the prewar levels. About half of these increases were the result of enrichment of flour and bread, the authors say.

Diet of families whose income has failed to increase in proportion to the increase in food costs is deteriorating, however, the report indicates.

"Although in the country as a whole per capita incomes were more than twice as high in 1948 as in 1940, food prices also about doubled in that period. Food costs affect everyone, whereas not all families have shared equally in income advances. Consequently, large numbers cannot afford to buy the kinds and quantities of foods needed for good diets," the report says.

In 1948 a family of four would have had to spend 50 per cent of a \$2,000 per year income on food to follow a low cost food plan prepared by the Bureau of Nutrition and Home Economics. In 1935, 35 per cent of the same income would have been required for food by a family of four following the plan.

"It is likely that thousands of families are spending a relatively large share of the family income for food at the expense of other needs, and that unless they spend this money in a nutrition-wise fashion, and so handle and prepare the food as to conserve food values to the utmost, diets are deteriorating accordingly," the authors emphasize.

VALUE OF HORMONE CREAMS HIGHLY CONTROVERSIAL

The value of hormone creams as "skin rejuvenators" is highly controversial, points out Maxine Block, Hollywood, Calif., in the March issue of Hygeia.

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PULMONARY CRIPPLES

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It is estimated that 14,000,000 Americans are affected by some form of allergy and that of this number 10% or 1,500,000 are definitely handicapped. The number of individuals so afflicted is increasing at an accelerated pace. Should present trends continue, and there is every reason to believe that they will, this may yet become one of the major problems in medicine. There are comparatively few illnesses that disable as many, particularly those in the younger age groups, as do the allergies.

With the ever-increasing pace of modern civilization, man has found himself under some environmental influences which have not been to his advantage, and which have resulted in new problems for him.¹ Important among these are those diseases classified as allergies. As modern life becomes more complex, the body cells are subjected to conditions which are relatively new to them; so new at times that they are unable to make adequate adjustment and cellular irritation or injury results. Urbach² wrote in 1946:

"The current economic and social upheavals and the general unrest of the population constitute one of the outstanding predisposing factors in the pathogenesis of

hypersensitivity. The city dweller's diet, rich in protein, salt and spices on the one hand and poor in calcium, vitamins and roughage on the other, tends to support and maintain allergization. . . . There has been an alarming increase in the incidence of allergic diseases. . . . Why are they found chiefly in the large cities?"

Allergy or hypersensitivity is a disorder of civilized man, and under suitable conditions all people may become hypersensitive. The type of reaction on the part of the body cells will depend upon the kind of noxious agent to which they are exposed, the length of exposure, the quantity and quality of the agent, and upon the health of the cells themselves.

Over a span of time man has radically changed his manner of living. In the beginning he lived in a tropical climate. As he found ways to protect his body against the elements, and to provide shelter for himself, he moved northward gradually. He has also moved successively from rural to urban areas. With these moves he came to live more and more away from the outdoors and spent ever-increasing hours of the day away from the sun. On the skin of man is the substance which is the precursor of vitamin D. This is activated only upon exposure to sunlight. Since he came out of the sun it was necessary to provide substitutes and, as yet, the results are unknown.

A consideration of the history of bread is interesting. In the distant past, this so-called staff of life used to be dark and it

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1. Some of the material in this paper was drawn from *Some Miscellaneous Observations on Management of the Allergic Patient* by Edw. L. Alexander, M. D.

2. Urbach and Gottlieb: *Allergy*, Grune and Stratton.

contained all of the ingredients nature meant for it to have, particularly thiamine chloride. However, with the advent of the roller mill some 100 years ago, the germ was taken out of the grain. This made it sterile so that it would keep on the baker's shelf. Consequently we were able to obtain a better looking loaf of bread but one with a decided decrease in quality. Nevertheless, consumption of baker's bread has increased prodigiously.

Similarly as in the case of flour, almost every food that we eat has been processed in some way. Whether in can, package, or possibly even the newer fast-frozen types, some modification has taken place. How are all of these artificial changes affecting us? That is something for the chemists to find out and tell us about.

At the same time that all of this has been taking place, the consumption of sugar has been on the increase. Sugar used to be used primarily as a condiment. In 1823 it is estimated that consumption in this country was 8.8 lbs. per person per year, providing about 44 calories a day.³ Today, the annual per capita consumption amounts to 108 lbs., or more than 500 calories a day. This represents, on an average, nearly 20% of our energy intake.

At the same time then as our intake of thiamine chloride and minerals has decreased, carbohydrate and protein consumption has increased.

With man's steady march into industrialization and urbanization he has been exposed to an ever-increasing number of chemicals and noxious fumes. Vaughan⁴ wrote in 1936: "All persons are potentially allergic." He summarized the conclusions of Spain et al. as follows:

"A given percentage of persons will give positive reactions to patch tests with 1:1,000 dilutions of ivy extract. If those who fail to react are now tested with 1:100 dilution, the same percentage will be found to react. If those who fail to react to 1:100 are tested with 1:10, the same percentage will be found to react."

This has been found to be true also of exposure to nickel. So we see that body

cells exposed long enough to sufficiently high concentrations of an agent will respond by the reaction of hypersensitivity in almost every case.

Thus we find that man in a relatively short span of time has come from a rural existence, with sunshine, fresh air and natural foods, to the crowded conditions of the industrial city of today with its smoke, lack of sunshine, changed food and sleeping habits, noise and insecurity. In addition it is necessary to take into account the staggering increase in the consumption of tobacco and alcohol.

These are some of the precursors and the catalysts which make for allergic disease. Is it any wonder then that man has new and perplexing problems facing him which as yet he has been unable to solve. With such a background, it is less difficult to understand some of the implications on observing the end results: asthma, hay fever, and vague gastro-intestinal or urinary disturbances.

While patients so afflicted in the older age groups are deserving of all the attention and care that can be given them, it is the younger ones in whom there is the greatest prospect for success. Chronic bronchial asthma strikes hardest at the growing child. It brings in its wake structural changes which make some of its victims pulmonary cripples. No one who has observed a child in the throes of an asthmatic attack can ever forget the sight. It is often said that regardless of how severe the attack appears, children do not die of asthma. Unfortunately this is not true. Some do die. Growth studies show definite retardation in allergic children. Conversely, following control of the asthmatic state, normal developmental patterns appear.

Emotional disturbances are a frequent source of trouble. Some of these children, realizing their physical condition, use it as a means of avoiding competition with children not so handicapped. Many become psychoneurotic. Others become suspicious and antagonistic to the physician and all treatment. They come to distrust people because they have pinned their faith and hopes on so many who have failed them.

What about the parents and other members of the household? Homes have been broken up in some instances. Many mothers

3. Mendell, L. B.: *Changing Food Habits in Your Weight and How to Control It*, Doran and Company, 1927.

4. Waverly Press: *Medical Papers*, 1936.

become distraught while the father is often torn between sympathy and cruel indifference. The other children cater to the afflicted one, with resulting jealousies and, at times, the development of neuroses in the healthy ones.

Although specific diagnosis in itself is often extremely difficult, treatment poses even greater problems. Diagnostic ability is not confined to a skin scarifier and a battery of hypodermic needles. An exhaustive and detailed history is one of the prerequisites for diagnosis. This means spending more time in obtaining the history than is the case in most fields of medicine. No information is considered insignificant until properly evaluated. A case history from one of Dr. Harold Abramson's⁵ patients illustrates this point. An 8 year old boy had had severe asthmatic attacks for one year. Hospitalization and oxygen had been required on occasion. In spite of some positive skin tests the severity of the asthmatic attacks could not be correlated with the suspected allergens. Therefore a detailed study of the relationship of the child to his parents was undertaken. This revealed that the mother and father were divorced, the mother having left the father for another man to whom she was now married. The child lived with his mother and stepfather. Further study brought out the fact that for some time the mother had been having severe feelings of guilt regarding her former marriage. A routine was established whereby the medication was administered to the child at bedtime and the mother devoted her attention to him regularly at that time, reading to him as a rule until he was sound asleep. There was an immediate change in the frequency and severity of the attacks for the child was now assured that he would not lose his mother as he had his father. Later, a placebo was substituted for the medication but there was no increase in the attacks.

A thorough and complete physical examination is next in order, along with such laboratory studies as are indicated. From the standpoint of safety, scratch tests should be done next. Then in the light of the results obtained, intradermal tests should follow. Some of the latter being extremely potent,

it is best to do the scratches first to avoid the possibility of constitutional reactions. Positive skin reactions must be evaluated according to degree and probability of exposure. False positives should be recognized, as should also delayed reactions.

With the information then at hand, a program of treatment can be planned. As a rule, treatment is lengthy and at times discouraging. At our office we usually take asthmatic patients for one year to begin with. There are two parts to treatment—elimination and hyposensitization. All offending allergens in the diet or environment should be eliminated as far as possible. Where this is not attainable, a program of hyposensitization is inaugurated, the dilutions and dosage being individualized for each case. It might be well to add here that the empiric treatment of allergic diseases with antihistaminic drugs alone is not in the best interests of the patient's future health. These newer drugs are undoubtedly a most efficient addition to our armamentarium. Nevertheless, the fundamental process, with its pathologic changes, continues its relentless course when the antihistaminics are being used as a sole mode of treatment.

Undergraduate medical education in the allergic diseases is as yet insignificant. Graduate instruction, however, is increasing rapidly. The allergies have so many ramifications and are so inextricably bound up in every field of medicine that it is important that the physician have at least a basic understanding of this subject.

There is one institution which has embarked on a definite program to help these unfortunate children. Since 1940, the National Home for Jewish Children at Denver, Colorado has accepted underprivileged chronic asthmatic children from all parts of the country who have failed to respond to any treatment. There, in the mile high atmosphere, with pleasant surroundings, good medical care, and psychiatric consultation when necessary, the great majority of these children show rapid and favorable improvement. What is more, this improvement is often maintained upon return to their homes.

We must conclude then that we have a medical and social problem of major proportions and of great significance; one that is becoming progressively more common. This

5. Abramson, Harold A.: The Present Status of Allergy, *Nerv. Child.* Jan. '48.

group of illnesses, neither dramatized nor publicized to the same extent as some others, is nevertheless often crippling, both physically and mentally. The services of the

social worker, the psychiatrist and the physician will all be necessary if we are to make progress against this most difficult problem.

HYDATIDIFORM MOLE AND ASSOCIATED CHORIONIC LESIONS

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Hydatidiform mole is a proliferative chorionic tumor whose uncertainties merit our interest, study and evaluation. Although this presentation is a clinicopathological report of 19 such cases, symptomatology and diagnosis are not our major concern now.

This tumor occurs much more frequently than the reported incidence of 1:2000 pregnancies.

Etiology is speculative but mention should be made of the following fragments of evidence:

1. A large number of early spontaneous abortions are due to a defective or blighted ovum.

2. Microscopic study of placentae in cases of missed abortion has long ago reported hydatid changes, and this finding has been confirmed by our laboratory and many others.

3. Vascularization of early chorionic villi is completed about the 21st day of union of villus vascular primordia with primitive allantoic vessels.

4. Villus nutrition is probably a function of maternal circulation.

5. Unfavorable environment favors anaplasia.

6. If embryonic development is so defective that no vascular connection is ever effected, trophoblastic epithelium could develop and function but accumulated products of epithelial function would collect in villus stroma because of absence of a vascular system to carry them away.

7. If this idea is even partially correct, hydatid degeneration and hydatidiform mole could be regarded as lesions due to absence or disruption of vascular connection between the embryo and its villi.

The usual pathology may be summarized:
Gross: Grape-like clusters of dropsical villi constituting a gelatinous tumor mass of variable size but usually resulting in rapid and excessive uterine enlargement. Necrosis is the rule rather than the exception and is due to rapidity of tumor growth. The amniotic sac is usually lacking. Fetus or fetal parts are often absent. Ovarian lutein cystomata may be demonstrated grossly in about 50% of cases but their size is not determined by the size of the molar mass. *Microscopic:* Marked villus enlargement due to stromal edema and epithelial proliferation; villus avascularity and necrosis, variable degrees of epithelial anaplasia, perivascular and intravascular trophoblastic masses; and a most uncertain degree of uterine invasion.

Any present classification of proliferative chorionic tumors is uncertain and confusing. At one extreme is found simple benign mole and at the other the practically always fatal, rapidly metastasizing and rare choriocarcinoma. Between these extremes is found a third group of lesions that has been called chorio-adenoma, chorio destruens, malignant mole, destructive mole and invasive mole. These tumors do not metastasize but are life endangering because of local uterine penetration. We place these borderline lesions in our mole group with the special designation of "invasive mole." We thus reserve the term chorio-epithelioma for the few cases of true choriocarcinoma.

Read before the annual meeting of the Alabama Association of Obstetricians and Gynecologists, Mobile, April 14, 1948.

From the Departments of Obstetrics, Carraway Methodist Hospital and the Medical College of Alabama.

Any study of hydatidiform mole material should take into account the following peculiarities of chorionic epithelium:

1. The primary and normal invasive function of the trophoblast.

2. Normal "deportation of villi."

3. While marked and exaggerated epithelial proliferation is a normal trophoblastic attribute, anaplasia is not. Trophoblastic anaplasia is ill defined, and criteria for its recognition are uncertain.

4. Different portions of moles may show a variable microscopic picture because of different vascular opportunity. Curettings of decidual molar attachment may thus appear quite different from portions of the molar mass itself.

With these preliminary considerations, we present a study of 19 hydatidiform moles and associated chorionic tumors encountered at Carraway Methodist Hospital during the past 18 years, the majority of the cases being the patients of one of us (T. M. B.).

By microscopic evaluation, we classify our moles into 3 groups:

Grade 1. Seemingly benign. These moles show the usual villus hydrops and enlargement, avascularity and variable necrosis, and epithelial proliferation absent or not marked.

Grade 2. Doubtful. This group is neither frankly benign nor frankly malignant. Trophoblastic proliferation, seemingly independent of clear cut villus attachment, appears to be significant. Some such trophoblastic efforts are associated with hemorrhage or clots.

Grade 3. Invasive mole or choriocarcinoma. This group shows marked proliferation and anaplasia, stromal invasion, sheets or plaques of trophoblast deeply invading

uterine muscularis with resulting tissue hemorrhage and necrosis, and presence or absence of villi or villus-like structures. The latter finding is an important, but not absolute, guide in the differential diagnosis of true choriocarcinoma.

Syncytial endometritis is a kindred lesion in that it is characterized by deep and diffuse invasions of decidua and myometrium by syncytial elements of the chorion. Such cells are not closely grouped and generally show an affinity for vascular channels. Their presence in an unusual location constitutes the only real similarity to choriocarcinoma. Some of our invasive moles show areas illustrative of this lesion but any etiologic connection is doubtful. Our two cases of syncytial endometritis are considered by us to be inflammatory rather than proliferative lesions and we do not classify them as true tumors.

The clinical features of our 19 moles are summarized in Table I but worthy of special mention are the following:

1. Two cases showed a uterus smaller than was expected.

2. Most of our preoperative diagnostic errors were due to an impression of a missed abortion.

3. Hormone tests, qualitative and quantitative, are merely laboratory aids and too much diagnostic reliance should not be placed in them. Their value in the postoperative follow-up period is beyond question.

4. Ninety-four (94) percent of our patients are living and well today.

5. Eight of 12 cases with uterus retained have since delivered living babies.

6. Of our cases, 15.7 per cent have developed invasive mole but not one to date has developed true choriocarcinoma.

TABLE I
CLINICAL DATA OF 19 MOLES

A	45	24	30	18	26	17	17	37	21	20	32	29	31	26	21	30	22	22	23
P	2	1	1	0	0	0	0	4	1	1	4	1	6	2	0	1	2	0	2
G	3	3	3	5	4	4	4	3	3	2	6	5	3	3	4	3	3	2	3
AG	5	5	5	9			4	5	5	4	3	3	7	5	6	5	4	2	
H	1	1	1	3	T	T	P	3	T	0	P	0	3	P	P	2	2	4	3
Ho			2	3			1	3		3	0	0	3	3	4	3			4
Tr	Hy	V	H	V	V	(V Hy)	(V Hy)	V	V	V	V	V	Hy	V	H	Hy	V	(V Hy)	(V Hy)
R	X	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X	X
D	X	0	X	X	X	X	0	X	X	X	0	0	X	X	X	X	0	0	X

Code: A-age, P-parity, G-gestation, AG-apparent gestation, H-hemorrhage (T-tissue passed, P-prune juice discharge), Ho-hormone test (o-negative, 3-200,000 and 4-plus 200,000 m. u.),

Tr-treatment (Hy-hysterectomy, H-abdominal hysterotomy and V-vaginal evacuation), R-result (X-living today, O-died), D-preoperative diagnosis (X-correct, O-incorrect).

Fourteen of 19 moles were classified Grade I (Table II). These moles were quite benign in microscopic appearance. Eight of these patients have since delivered living babies. The one invasive mole in this group followed vaginal removal of a mole most benign in microscopic study of 8 sections. Figure 1 shows a microscopic section from the decidual molar attachment of an apparently benign mole. Hysterectomy was done in this case because of multiparity and proximity to menopause. Would such a uterus have returned to normal following simple vaginal evacuation of this mole? Our present ideas of treatment imply that it probably would have done so.

Table II
CLASSIFICATION

Path. No.	Alive	Pregnancy	Invasive Mole
Grade 1			
1. 30 219	X	Hysterectomy	0
2. 35 91	X	X	0
3. 38 4	X	X	0
4. 38 164	X	0	0
5. 38 499	X	X	0
6. 40 1045	X	X	0
7. 41 179	X	X	0
8. 41 576	X	Hysterectomy	X
9. 41 690	X	Hysterectomy	0
10. 41 905	X	X	0
11. 42 445	X	Hysterectomy	0
12. 42 550	X	0	0
13. 42 584	X	X	0
14. 45 575	X	X	0
	14/14	8/10	1/14
Grade 2			
15. 31 909	0	Hysterectomy	X
16. 31 66	X	0	0
17. 46 710	X	0	0
18. 47 613	X	Hysterectomy	0
	3/4	0/2	1/4
Grade 3			
19. 47 991	X	Hysterectomy	X

Four cases were classified as Grade 2. These moles showed marked proliferation and some anaplasia (Figs. 2 and 3). Sheets of trophoblast, largely cytotrophoblast, are seen growing independently of clear villus attachment. Case 18 ran a consistently positive hormone test of low titre for fourteen months. Secondary hysterectomy resulted in a negative hormone test but failed to demonstrate any lesion producing it.

One case was classified Grade 3, this on a basis of curettings. This patient passed a

mole nineteen days prior to hospital admission. Incomplete passage of the mole was to be ruled out, hence the curettage. Hysterectomy confirmed the diagnosis of invasive mole but we do not place any degree of faith in negative curettings.

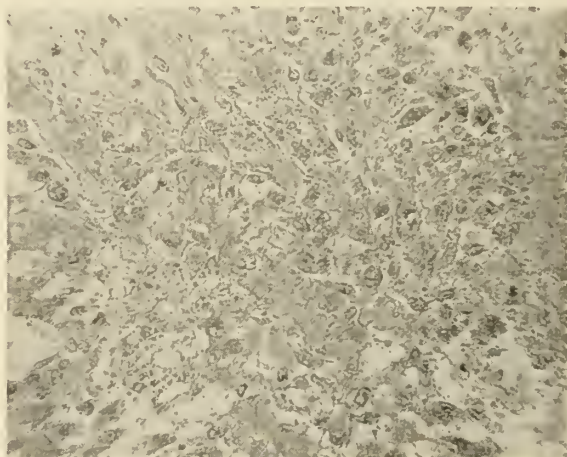


Fig. 1—Microscopic section from the decidual molar attachment of an apparently benign mole.

In former years most of us have considered the microscopic patterns of hydatidiform mole a most unreliable index of future malignant potentialities. That impression may still be correct. Hertig and Sheldon do attempt a morphologic division into 6 groups, with a tentative prognosis so determined. We frankly doubt if any such precise degree of grading is possible or practical if attempted by other than a few outstanding men. A benign mole should not become malignant but some do; many questionable

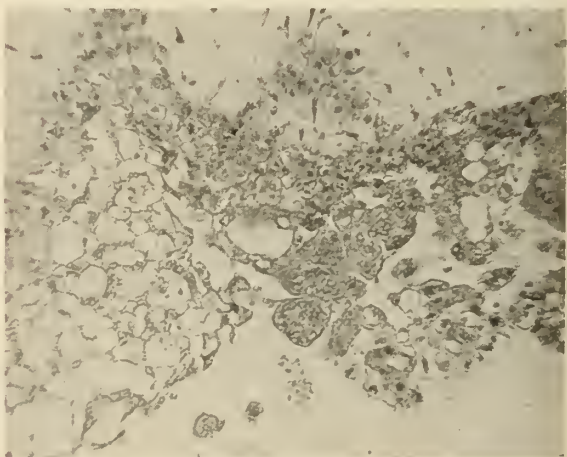


Fig. 2—Grade 2 or doubtful mole. Trophoblastic proliferation and some anaplasia.

moles have a quite satisfactory clinical recovery following simple vaginal evacuation. These known facts emphasize the uncertainties of this molar lesion.

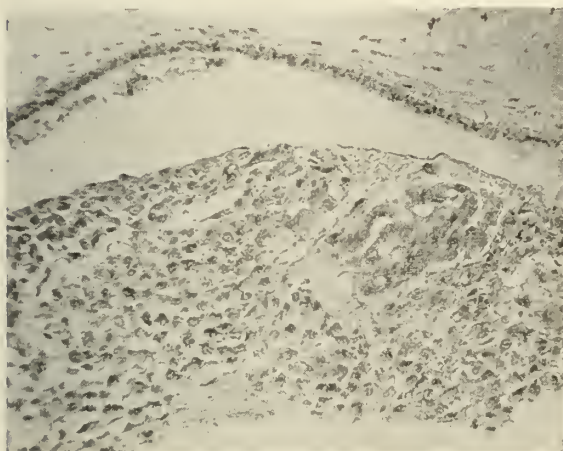


Fig. 3—Grade 2 or doubtful mole.

In so far as actual management of a diagnosed mole is concerned, we suggest that policy which will reasonably insure complete removal of the molar mass, minimal operative risk, and avoidance of needless sacrifice of uteri. Our general plan is as follows:

1. If the fundus uteri lies beneath the umbilical level and if the cervix is patulous or open (it usually is), we favor simple vaginal evacuation with sponge forceps and finger. Although gentleness and extreme care are necessary for obvious reasons, we stress the importance of carefully curetting a portion of the decidual molar attachment for microscopic study.

2. If the fundus uteri reaches above the umbilical level, abdominal hysterotomy is indicated.

3. The indications for primary abdominal hysterectomy are (a) multiparity and/or proximity to menopause; and (b) definite gross evidence of marked uterine invasion at the time of the initial abdominal hysterectomy.

4. The indications for secondary abdominal hysterectomy are: (a) invasive mole, (b) chorioepithelioma, and (c) prolonged persistence of a positive hormone test, especially with a rising titer.

5. Ovaries containing lutein cystomata are not removed in cases of benign mole. We

have removed them in our cases of invasive mole.

6. We do not subscribe to any philosophy of treatment which favors or permits indiscriminate sacrifice of young uteri.

7. Careful postoperative follow up by repeated hormone titers, repeated pelvic checks and painstaking instructions to such patients regarding possible danger signs or symptoms are all quite imperative. Our series suggests that the hormone test may remain positive from one to six months following mole. (Case 18 was positive for 12 months, as has been stated). A rising quantitative will suggest immediate hysterectomy if normal pregnancy is ruled out. Diagnostic curettings are of little negative value but may be of positive value (Case 19).

8. We shall expect a certain number of our postoperative cases to develop invasive mole. Our invasive moles have all appeared within a few weeks. Is incomplete molar expulsion or removal responsible for this semi-malignant lesion?

SUMMARY

1. A clinicopathological study of 19 hydatidiform moles is reported.

2. A certain number of postmolar patients, 15% in our series, may develop invasive mole. There is some real doubt as to the malignancy of this lesion.

3. True choriocarcinoma must be rather rare.

4. Prognostic expressions based upon molar morphology should probably not be attempted by the average pathologist or clinician.

5. With a few specific exceptions, our policy of management of hydatidiform mole is quite conservative. Of our patients retaining their uteri, 67% have since been delivered of living babies. These babies constitute a good argument for conservatism.

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2501 N. 16th Avenue.

TICK PARALYSIS

A DISCUSSION AND CASE REPORT

LEO M. BASHINSKY, M. D.

and

SAMUEL C. LITTLE, M. D.

Birmingham, Alabama

Tick paralysis is a disease of man and certain animals which is characterized by symptoms of irritability, incoordination, weakness, and an ascending flaccid paralysis. The paralysis progresses rapidly from the lower to the upper extremities, and death may result due to a respiratory paralysis. Recovery is usually to be expected following the removal of the offending tick. Therefore it is most important to recognize the symptoms of this disease, and to make a search for the attached tick or ticks. When signs of bulbar involvement are present, death from respiratory paralysis is common. In some cases, when the tick has been removed prior to the onset of bulbar symptoms, the disease may progress to a fatal termination.¹

The cause of the disease is thought to be a toxin secreted by the engorged tick. Large amounts of this toxin are secreted from the engorged tick following its fourth day of attachment. The exact nature and action of this toxin is not known, and the pathologic changes of the peripheral and central nervous systems are not striking. There appear to be only two species of the tick family which are capable of transmitting this disease: *Dermacentor variabilis*, the American dog tick, and the *Amblyomma Americanum*, the lone star tick.² The female tick has been shown to be the carrier of this disease.

The incidence of the disease is three to one greater in female than in male children, as the long hair of the head offers a suitable hiding place for the tick to escape discovery.

The tick therefore has a chance to feed and remain attached for the necessary four days or longer to excrete toxin in clinical amounts. The incidence and severity of the disease is greater in children, and it is rarely seen in adults. In Australia the disease was recognized in animals as early as 1824, and human cases were reported in Montana in 1912.¹

The usual symptoms of the disease are a general irritability, which may be followed by a sensation of numbness in the lower extremities, weakness of muscle power, incoordination, and finally the picture of ascending flaccid paralysis. The deep and superficial reflexes are lost from below upward, and the paralysis is symmetrical. When cranial nerves are involved, respiratory paralysis usually follows. Ataxic movement may be found. The temperature, pulse and respirations are normal as long as there is no bulbar involvement. Other laboratory findings are not helpful in making a diagnosis.

Treatment is confined to the early removal of the attached tick and general supportive measures.

REPORT OF CASE

E. W., an eight year old white girl, had been in good health until the afternoon of August 7, 1948. For a week prior to her illness she had played in the bushes of a vacant lot next door, and had frequently removed ticks from the family dog. She removed many ticks from her dog the day prior to the onset of her illness. At 5 P. M., while playing in the yard, she noticed rather suddenly that she was unable to get up from her position on the ground, became frightened, and called out to her mother. When the mother arrived she had to carry the girl

1. Proc. Staff Meet., Mayo Clinic 18: 39-45 (Feb. 10-18) 1943.

2. Correspondence, U. S. Public Health Service, Rocky Mountain Laboratory, Hamilton, Mont.

into the house as she could not walk, and the motion of her legs was noted to be aimless. On being placed in bed she complained of some generalized mild abdominal pain, and paresthesias in her hands and feet. She was free of fever when her mother notified her physician of the illness.

Examination at 7:30 P. M. revealed an alert, wiry girl lying limp in her mother's lap with her head fallen back and all extremities dependent. She was unable to sit alone, and when raised to a sitting position she swayed unsteadily and complained of dizziness. She was unable to stand alone or support herself, and attempts at walking with support resulted in an aimless flopping of the extremities. The ataxia on attempting to walk resembled that seen in midline cerebellar tumors but was much looser and weaker than in that type of ataxia. The girl was alert and cooperative though apprehensive of her illness.

Examination of the cranial nerves revealed no abnormality except slight incoordination of the eye movements which appeared to be the result of a preexisting strabismus. Complete sensory examination was not done, but no gross abnormalities were noted. There was a paresis of all extremities and the lower back, this being most severe in the lower extremities. The weakness was not localized to any particular muscular group and appeared to be as severe in the distal as in the proximal muscle groups. All of the deep tendon reflexes were absent except the biceps response which was weak and equal. Finger-to-nose and heel-to-toe-to-knee tests were poorly performed, with overshooting, dysmetria, and weakness.

General physical examination revealed no abnormal findings. Two ticks were found, one large and one small, firmly attached about one-fourth inch apart behind the left ear, covered by the braid of her hair. The larger tick was engorged.* The

ticks were removed with tweezers, care being taken to remove the mouth parts. The ticks were removed three hours following the onset of the initial symptoms.

The patient was hospitalized for observation. There was some arrhythmia of respiration but no respiratory paralysis was noted. By 11:00 P. M. the biceps reflexes had returned to normal power. At 2:00 A. M. she was able to turn over easily in bed without assistance, and the Achilles reflexes had returned. She did well except for some nausea with breakfast, and shortly thereafter the triceps and abdominal reflexes were elicited. She was able to walk in a stiff legged fashion by 9:00 A. M., and the patellar reflexes had returned. She was discharged, completely recovered, at 10:00 A. M., and subsequent examinations have been entirely normal.

DISCUSSION

It is only recently that tick paralysis has been reported in the southern area. One case of this disease was seen by one of us (S. C. L.) in 1945† but was not reported at that time. In the case herein reported it appears that the onset was more rapid than usual, if it is assumed that the tick responsible transferred to the patient the day before, but since she may have become host to ticks any time for a week prior to her illness it cannot be definitely stated that the syndrome developed in twenty-four hours. It is certainly true that the progress of the disease was much more rapid than usual, severe disability being reached three hours following the onset of initial symptoms. It

†A nine year old child referred by Dr. E. B. Smith was seen on August 19, 1946. The history stated that two days before the gait had become waddling he had difficulty holding up his head and walking, and later seemed to have difficulty in chewing. When seen, the patient sat with his head drooped forward, and there was generalized weakness, but he could partially support his weight on standing, and he could only take a few steps with support. There was paresis in all extremities, it being more severe in the lower extremities. The child had recently been in the country and played in the woods. A large tick was removed from the right parieto-occipital region. The child began to show recovery of function within eight hours following the removal of the tick, and was asymptomatic twenty-four hours later. A photograph of the tick was made but the tick itself escaped, and the species could not be identified from the photograph alone.

*Through the courtesy of Dr. Phillip Hitchcock of the Medical College of Alabama, the ticks were sent to the Department of Tropical Medicine and Public Health, Tulane University of Louisiana School of Medicine, and through the kindness of Dr. Albert Lewis they were identified as both belonging to the group *Dermacentor variabilis*, the larger tick being a female, the small a male. An attempt at the isolation of the toxic material will be made later by Dr. Hitchcock.

may be that this tick was already engorged with dog blood and already elaborating toxin at the time of attachment, thus allowing more rapid progress of the disease. It is worthy of comment that the site of attachment was a little unusual as most ticks are found attached in the occipital region.

SUMMARY

The syndrome of tick paralysis is briefly reviewed. One case is reported that showed an unusually rapid progress of the disease prior to the removal of the offending ticks and in which complete recovery occurred in fourteen hours following the removal of the ticks.

PEDIATRIC CASE REPORTS

Edited by

AMOS C. GIPSON, M. D.

Gadsden, Alabama

M. J. S., age 7 years, was normal until September 14, 1948 when she began to complain of headache and abdominal pain. She was given aspirin frequently and went to school sporadically, as she was too sick to go every day. On September 23 she began to have fever, sore throat and edema of the face.

When she came to the Clinic on September 27 her temperature was $100\text{-}3/5^{\circ}$ (M), the urinary output was small, she was nauseated, and had vomited three times in the previous twenty-four hours.

Physical examination revealed generalized edema, large, acutely inflamed cryptic tonsils with many spots of exudate on both, some cervical adenitis, and the lower border of the liver was three fingerbreadths below the costal margin.

The urine was loaded with blood, had a specific gravity of 1.016, and showed a 4 plus albumin. The blood pressure reading was 150/100. Sedimentation rate: 1 hour—41 mm. (corrected). Non-protein nitrogen was 57 mgm.

Examination of the blood revealed hemoglobin of 9.5 gm. (57%), red blood count 2,930,000; and white count 9,000, with 41% polymorphonuclear leucocytes and 59% lymphocytes.

She was started on 40,000 units of penicillin every 3 hours and 2 cc. of magnesium sulphate (50% sol.) intramuscularly every

4 hours. A low protein, high carbohydrate diet was given with no restriction of fluids.

On September 28 (2nd day), the urinary excretion had improved, and there was no nausea, vomiting, headache or abdominal pain. The blood pressure remained at 150/100; and the 2 cc. doses of magnesium sulphate were cut down to three times daily. Two hundred cc. of citrated blood were given for the anemia.

September 29 (3rd day), the appetite was improved and she felt much better. The edema was less noticeable. Blood pressure was 145/100. The magnesium sulphate was discontinued as the kidneys were functioning well.

Her improvement continued until October 3 when she was discharged. At this time her temperature was normal, kidney function good, blood pressure was 105/70, and she had lost seven pounds in weight since admission.

Urinalysis showed a specific gravity of 1.018 and there was but a trace of albumin. There were 12 to 14 red blood cells per high power field.

This is a case of acute hemorrhagic nephritis.

DISCUSSION

Acute nephritis generally follows an infection elsewhere in the body. In this case it was acute tonsillitis.

Glomerulonephritis is not due to direct bacterial invasion of the kidney but a sensitivity of some kind to the bacterial products. The nature of such sensitivity, however, remains obscure.

Striking results are obtained from the use of magnesium sulphate, given intramuscularly ((0.1 cc. of a 50% solution per Kg. of body weight, repeated at four hour intervals). The kidney function is improved and this lowers the blood pressure and reduces cerebral edema.

The beneficial effect of magnesium sulphate has been attributed to a relaxation of arteriospasm.

The withdrawal of cerebrospinal fluid by lumbar puncture, while often dramatically effective in relieving headache and other more serious cerebral symptoms, has only a temporary action and is accompanied by risk of fatal medullary compression. Convulsions, when present, may require seda-

tives or even an anesthetic for their control.

The blood sedimentation rate can be used as a measure of the progress of the disease. In the average case it remains rapid for about three months. The continuation of the rapid rate is in contrast to the usual period of two weeks following an upper respiratory infection.

Prolonged bed rest is of value.

Only about 1% of the children with acute nephritis progress to chronic nephritis.

The tonsils should be removed in from four to six weeks after the acute episode. In some cases the hematuria will continue until a tonsillectomy is performed.

A Plea for Clinical Diagnosis in Present Day Medicine—My thesis is: Let's make a more intimate study of the sick man or woman with God given faculties, possessed by all of us. I do not mean, in any sense, to belittle or underestimate the value of laboratory studies, but they should be used more as a "clinical science" to supplement and implement our "clinical sense."

When a student or an intern begins his story of a patient's illness with blood counts, hematocrit readings, urea clearance readings, etc., I know that he has not looked at the patient as a sick individual but as an object for study. One always feels that the sick man should be boiled in a test tube to see what reactions one can get, or that he should be sliced under a microtome to determine his histopathology. Would it not be better to call such men biologists and not physicians? The term physician not only implies that we should try to find out what is wrong with a patient, but to use the best means we have to cure him or, at least, to improve his condition. Even the hopelessly ill man can be given a measure of relief.

I can recall an incident that occurred some years ago when a patient of mine was not satisfied with my opinion; he insisted on consulting a distinguished internist in one of the Eastern centers. It took several days to complete various examinations that were made in many different laboratories. When the patient returned to me he brought with him many reports carefully typed and bound. There were twelve typed pages of data without a single conclusion. The man turned out to have had a solitary abscess of the liver—this had been suspected, and was confirmed by the exploring syringe. Proper treatment was instituted with complete recovery.

It is not my intention to condemn proper use of the laboratory in the study of disease or for arriving at proper conclusions as to what is wrong with a patient or what his treatment should be. My contention is with the approach to the study of the disease. I have suggested, on occasions, that a special period should be assigned to teach students the method of starting to get a history. How often do we hear a sick man asked, "What

is the matter with you?" All too often he has read something in the lay press, or even in some medical journal; perhaps he has had an opinion, after a superficial examination, of another doctor. The patient will have some vague notion of what his trouble is, and he does not hesitate to give it to you. With the careless physician (and I am positive there are some) the patient may well be treated for what he himself says he has. I have seen such a person operated on for hemorrhoids when the patient had a carcinoma of the rectum. Here is where we may have our suspicions confirmed by the x-ray laboratory. I have frequently used the aphorism that "a finger in the rectum will give more information than a thermometer in the mouth." How often have we seen iodine in some form given in nontoxic thyroid disease? In the manner of approach to the sick individual, it might be well to imitate the great philosopher, Sir Berkley Moynihan. His paper on "Inaugural Symptoms" might well be read with profit to all of us. His very practical system was simply to let the patient tell the whole story about himself. That, plus the answers to a series of well directed questions by the examining physician, put him on the right track. I have often pondered over the right first question. After trying many different ones, I have finally concluded that for routine use I can ask simply, "How long have you been sick?" This will almost always open up a series of observations that will help in making a decision.

Having spent most of my medical life in clinical medicine, I may be somewhat prejudiced in my ideas about the training of present day medical students. It is my firm conviction that the future of medicine lies in the more scientific side. Undoubtedly, the physiologist, the biochemist, and the biologists will be responsible for the advances that are to be made. My plea is not, in any way, to have fewer of these sciences; my hope is to have them more useful in their application.

There are many diseases in which the laboratory—and the laboratory alone—can give us the information that is necessary for the final label to be placed on a patient's disease. It is certain that an estimate of what the patient can stand and what the outlook is, in many instances, can only be furnished by laboratory study. My plea is that we have a sick man to deal with, and he should have the benefit of thorough clinical study as well as the wise application of necessary laboratory data.

Could it be the fault of those of us who have been teachers, those of us who are still teachers, that we are not giving the young physician a chance to recognize his "clinical sense"? Perhaps the fault lies in the college, or even in secondary education, where his school curriculum is "cut and dried;" there seems to be no place in it for exploration of his own. Perhaps our task should begin with the medical school curriculum where we would give the student an opportunity to develop an awareness of this clinical sense.—*Maes, New Orleans M. & S. J., Feb. 1949.*

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APRIL—THE CANCER EMPHASIS MONTH

By national proclamation, April has been designated the time for special emphasis on cancer, and its problems. Each state usually falls in line with this plan.

The American Cancer Society, during April, conducts its nation-wide campaign to secure funds for the promotion of its work, and to build up a large reserve for research. Under very careful supervision, this Society is able to evaluate and then grant financial assistance in the many research projects which apply to it for help. The foundation work is making progress.

In Alabama, our State Division of the American Cancer Society has thoroughly organized each county, and is ready to make an earnest effort to reach and pass the goal for the cancer drive this month. The various research projects in Alabama are liberally supported through the national as well as the state division of the American Cancer Society.

An appeal to the medical profession, which means each physician in our state, is made for support for this worthwhile enterprise.

CANCER FILM AVAILABLE

First in a new series of sound films in color, *Cancer: The Problem of Early Diagnosis*, is designed to show that the family

physician offers the only immediate hope of reducing the annual toll of more than 180,000 deaths from cancer. The picture begins with Dr. Theodor Billroth's famous operation for gastric cancer in 1881. It portrays graphically the difference made today by early diagnosis of cancer of the stomach, breast, rectum, cervix and lung.

Five succeeding films will give more detailed treatment to breast, intra-oral, lung and esophageal, gastro-intestinal, and skin cancer. The series is sponsored jointly by the American Cancer Society and the National Cancer Institute of the U. S. Public Health Service.

Cancer: The Problem of Early Diagnosis is an unusual medical film. It emphasizes highlights, skips unessential details. The camera shows family doctors making examinations and surgeons performing operations. Animation of superlative quality is used to portray what is happening inside the body of the cancer patient. A series of charts dramatizes the reduced mortality rate when diagnosis and treatment are early instead of late.

The film is available to county medical societies through the Field Army of the American Cancer Society, 907 Ramsay-McCormack Building, Birmingham (Ensley) 8.

SYRUP OF URETHANE SEIZED

The Federal Security Administration's Food and Drug Administration is making seizure of Syrup of Urethane. This is a cough syrup manufactured by Marvin R. Thompson, Inc., Stamford, Conn. Physicians, pharmacists, and consumers are warned that the administration of urethane in the quantity recommended on the label may cause a dangerous lowering of the white blood cell count. This leaves the patient more liable to infection from disease germs. Individuals suffering from coughs are likely to have accompanying infections.

While urethane came into use as a sedative about a century ago, recent medical studies clearly demonstrate its potential danger when used as directed in the labeling of this syrup. However, when use of urethane is discontinued the white blood cell count ordinarily returns to normal in a short time.

More than 2300 gallons of Syrup of Urethane have been distributed in about 34,000

packages ranging in size from $\frac{1}{2}$ oz. physician's samples to one gallon bottles. The product has gone throughout the country to physicians, wholesale druggists, and retail pharmacists.

When seizure actions were commenced the manufacturers started to recall Syrup of Urethane from the market. The manner and extent of distribution are such that neither the manufacturer nor federal, state, and local health offices will be able to locate all bottles promptly.

The American Medical Association and the American Pharmaceutical Association are assisting by distributing this warning through their mailing facilities to hospitals, state and county medical societies, and state pharmaceutical associations.

JAUNDICE

"For several cogent reasons the practitioner may be required to turn his attention to the matter of diagnosis in the case of jaundiced persons. During the war years the most extensive epidemic of infectious jaundice on record swept across Europe, the Orient, Africa, the Pacific islands and the North American continent and left in its wake several highly important sequelae. The first obviously is the public health problem which may arise in any community in which the disease appears; the second is an increase in the number of older persons affected by the more serious and even fatal forms of hepatitis, including subacute and chronic forms of atrophy of the liver, and by such chronic lesions as the cholangiolitic or biliary types of cirrhosis. There has been an absolute increase in the various forms of atrophy of the liver observed both in this country and in Europe, and the mortality rate of the more acute form has been distressingly high. A third problem has to do with the transmission of virus hepatitis by the use of blood, blood products, such as liquid or dried plasma, and even contaminated syringes and needles. This form of hepatitis, often designated as 'homologous serum jaundice,' has carried a mortality rate many times higher than that of the naturally transmitted disease and has led to a curtailment of the use of plasma in many institutions. The differentiation of these 'medical types' of jaundice has become a matter of

unusual importance since surgical intervention in such cases is often attended by hepatic insufficiency and death."

The above is from the article by Snell¹ dealing with this subject. Snell asserts that "the onset of hepatitis of the infectious type is usually abrupt, with nausea, anorexia, vomiting, fever and malaise." The Rochester observer goes on to tell us that "at the Mayo Clinic we are inclined today to center our inquiries on two major points: (1) the consumption of alcohol and (2) the use of blood or blood products, or even of other parenteral treatment, within two to four months of the onset of jaundice.

"The hazard incidental to the transmission of hepatitis by blood or blood products has been recognized only recently, but the homologous serum forms of jaundice are of such a serious nature that this possibility must be considered for every jaundiced patient. It is not generally recognized that from 4 to 5 per cent of patients who receive pooled plasma will have a virus hepatitis within two to four months. The incidence following blood transfusion is, of course, definitely less."

Snell goes on to tell us that "it may be inferred from this brief resume that a good history, a painstaking physical examination and certain minimal laboratory studies will point the way to an accurate diagnosis of jaundice in a large majority of cases. Unfortunately, however, there are many persons whose histories are confusing, whose physical findings are meager and on whom laboratory studies give equivocal results. In such persons, a reasonable doubt in regard to the nature of the diagnosis must remain. It is of such patients that one may say, as did one famous surgical authority, that a guess is a poor peg on which to hang a man's life and that the possible benefits of exploration may well justify the risk. This widely quoted dictum has been responsible for many rather unfortunate surgical procedures on jaundiced patients, many of which might have been avoided by reference to the statistical odds in the individual case."

What Snell has to say is indeed of the utmost importance and should certainly

1. Snell, Albert M.: Fundamentals in the Diagnosis of Jaundice, J. A. M. A. 138: 274 (Sept. 25) 1948.

give pause to all practitioners, both medical and surgical, who must deal with such patients. It is most regrettable that evidence continues to mount against the use of pooled plasma. Knowledge of the newer forms of hepatitis is being acquired and it certainly behooves all physicians to keep well informed in this regard. And the Rochester clinician's warning as to the dangers of unnecessary or hurried surgical intervention should certainly be kept in mind.

RED CROSS BLOOD PROGRAM

Many of the country's leading scientists in special fields of research concerning the preservation and use of blood and blood derivatives met recently at the Harvard Medical School in Boston. The discussion conference was called at the request of the Committee on Medical Sciences of the Research and Development Board of the National Military Establishment under the auspices of the National Research Council, the National Institutes of Health, and the American National Red Cross.

Particularly stressed were the new developments in the collection, preservation, and administration of whole blood and its component parts. Dr. Edwin J. Cohn, head of the Department of Physical Chemistry, Harvard University, declared: "Based on this conference, it may be stated that present methods of blood banking do not represent the optimal conditions that can presumably be achieved in the interest of preserving all the formed elements of blood. It is important that new methods of collection and preservation of blood be instituted if adequate quantities are to be obtained for military as well as civilian needs."

Dr. Cohn is regarded as one of the foremost authorities on the separation of blood into medically needed derivatives.

Discussions at Boston brought out that the American Red Cross, through its National Blood Program, is in excellent position to put into practice many of the recommendations made by medical scientists in this field. Several of these medical leaders already serve on the national advisory committee for the Red Cross program.

Dr. Louis K. Diamond of Boston recently was appointed full-time medical director of the Red Cross National Blood Program to

direct its medical phases along the soundest and most advanced lines. The appointment was announced by Dr. Ross T. McIntire, the program's national administrator. Since February of last year, Dr. Diamond has been part-time technical director of the program while continuing his duties at the Children's Medical Center, Boston, and in the Department of Pediatrics, Harvard Medical School. He will be on temporary leave of absence from these institutions while serving in his new capacity.

Dr. Diamond is a widely known pediatrician and an authority in the field of hematology and pediatrics. He has made numerous original contributions to these fields, especially in his research on the Rh factor in human blood. Dr. Diamond is the author of many articles and several books on pediatric hematology. As a responsible investigator dealing with blood transfusion problems for the National Research Council during the war, and as the director of several blood banks and of the Blood Grouping Laboratory of Boston, he has gained a wide reputation in the field of blood research.

From January 1948, when the Red Cross National Blood Program was inaugurated, to February 14, 1949, 19 regional centers and one state-wide mobile unit service were activated. By June 1949 it is anticipated that a total of 30 regional programs will be in operation.

PHYSICIANS AND DENTISTS FOR ARMED FORCES

In order to relieve the critical shortage of physicians and dentists in the Army, Navy and Air Force, the Armed Forces Medical Advisory Committee has recommended to the Secretary of Defense a nation-wide drive to recruit volunteers from among the younger physicians and dentists who received all or part of their education at government expense, or who were deferred from service with the Armed Forces because of their status as medical or dental students.

The drive would be a cooperative effort of the medical and dental professions, and the medical services of the Army, Navy and Air Force, according to Chairman, Charles P. Cooper.

It is estimated that by July 31, 1949 the Armed Forces will have a shortage of 1,600 physicians and 1,160 dentists. The shortage

by December is expected to be 2,200 physicians and 1,400 dentists.

Of approximately 18,000 physicians who received their professional education, in whole or in part, at government expense under the Army Student Training Program and the similar Navy V-12 program, some 10,000 have served in the Armed Forces. About 8,000 of these have not served. Several thousand more men were deferred in order to continue their medical or dental education. The Armed Forces Medical Committee stated that it was the opinion of the members that these men should volunteer for a period of one or two years service, corresponding to the period of deferment.

These individuals owe a moral obligation to serve," Mr. Cooper said. "While they were deferred to receive their education, many other young men outside their profession lost four to five years and had to return to college after the war to complete their education. Their professional colleagues, as well as the members of this Committee, believe they owe this obligation. We feel sure the general public will agree with this viewpoint and that these young men will be willing to discharge their obligation."

Physicians and dentists who qualify are asked to volunteer for a minimum of one year. They would be commissioned as officers and receive \$100 a month in addition to prescribed pay and allowances for their rank.

The Committee stated that it would make a continuing study on the problem of workload of the medical services to determine where economies can be made in the utilization of medical and dental personnel, and would make recommendations to the Secretary of Defense.

The Committee also stressed that the physicians and dentists who volunteer would be used, as far as possible or feasible, in assignments suited to their professional skills and abilities.

The Armed Forces Medical Committee was appointed in December 1948 by the Secretary of Defense to recommend policies and programs for the coordination and improvement of the medical and allied services of the National Military Establishment, and for the development of maximum continuing cooperation and understanding between

members of civilian medical and allied professions and the armed services.

Charles Proctor Cooper, the Committee Chairman, is President of the Board of Trustees of Presbyterian Hospital in New York City. Mr. Cooper will act as deputy to the Secretary of Defense in all medical matters affecting the National Military Establishment.

AMERICAN COLLEGE OF CHEST PHYSICIANS

The Board of Examiners of the American College of Chest Physicians announces that the next oral and written examinations for Fellowship will be held in Atlantic City, June 2, 1949. Candidates for Fellowship in the College, who would like to take the examinations, should contact the Executive Secretary, American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

The Fifteenth Annual Meeting of the American College of Chest Physicians will be held at the Ambassador Hotel, Atlantic City, June 2-5, 1949. An interesting scientific program has been arranged for this meeting, and speakers from several other countries are scheduled to appear.

AMERICAN CONGRESS OF PHYSICAL MEDICINE

The American Congress of Physical Medicine will hold its twenty-seventh annual scientific and clinical session Sept. 6, 7, 8, 9 and 10, 1949, inclusive, at the Netherland Plaza Hotel, Cincinnati, Ohio. Scientific and clinical sessions will be given on the days of Sept. 6, 7, 8, 9 and 10, 1949. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, the annual instruction courses will be held Sept. 6, 7, 8, and 9. These courses will be offered in two groups. One set of ten lectures will consist of basic subjects and attendance will be limited to physicians. One set of ten lectures will be more general in character and will be open to physicians as well as to physical therapy technicians who are registered with the American Registry of Physical Therapy Technicians. Full information may be obtained by writing to the American Congress

of Physical Medicine. 30 North Michigan Avenue, Chicago 2, Illinois.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The general oral and pathology examinations (Part II) for all candidates will be conducted at Chicago, Illinois, by the entire Board from Sunday, May 8, through Saturday, May 14, 1949. The Hotel Shoreland in Chicago will be the headquarters for the Board. Formal notice of the exact time of each candidate's examination will be sent him several weeks in advance of the examination dates. Hotel reservations may be made by writing direct to the Shoreland.

Candidates in military or naval service are requested to keep the Secretary's office informed of any change in address.

Applications are now being received for the 1950 examinations. Application forms and bulletins are sent upon request made to the American Board of Obstetrics and Gynecology, Inc., 1015 Highland Building, Pittsburgh 6, Pa.

ALABAMA HEART ASSOCIATION

The first annual meeting of the Alabama Heart Association will be held at the Grey-

stone Hotel, Montgomery, April 20th at 4:30 P. M. It will be open to all who are interested.

ALABAMA ACADEMY OF GENERAL PRACTICE

An Alabama chapter of the American Academy of General Practice has been formed, with Dr. George S. Peters of Montgomery as President. Other officers are Dr. J. Paul Jones, Camden, Vice-President and President-Elect; and Dr. E. J. Kocour, Montgomery, Treasurer. The following were named to the Board of Directors: Chester P. St. Amant, Jr., M. D., Atmore; Arthur F. Wilkerson, M. D., Marion; and N. Bograd, M. D., Montgomery. J. R. Williams, M. D., Selma, will head the Committee on Credentials and T. J. D. Scanlan, M. D., Montgomery, will head the Education Committee.

Part of the growth of the Academy and its chapters may be attributed to the belief on the part of the profession that more general practitioners are needed to fill important places in the medical care picture.

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

THE OTHER PHASE

W A. Dozier, Jr.
Director of Public Relations

For several months now this column has been devoted to facts on the proposed National Compulsory Health Insurance Plan which is so much before the public at present. It is only fitting that space be given to such a discussion. However, there is another phase of the work which must be done by your Committee on Medical Service and Public Relations. Though emphasis has, for the moment, been put on the political angle, let us not forget the all-important job of working out plans for the improvement of health in Alabama, plans which you and your Association may back in this constant fight for improvement.

The medical profession and its national organization, the American Medical Asso-

ciation, have time and time again been criticized because they did not have a constructive plan to handle the problems facing all who are interested in better health. This criticism is also levied at State Associations. Only portions of the criticisms have been true, and minor features have been magnified all out of proportion. For example, AMA has been criticized for its "eleventh hour" plan. The critics have not taken time to look back and see that there was a ten-point program which preceded and was recently superseded by the present twelve-point program. Be that as it may; the fact remains that we live in an era when plans must be made and presented to all concerned.

The logical question arises concerning where we stand in Alabama. Your Association realized in 1944 that work on a positive

program must be done. Because of this realization the Post-War Planning Commission was formed, and from this beginning grew the present Committee on Medical Service and Public Relations.

This Committee realized that it knew one side of the many-sided problem facing us. Being physicians they naturally knew the medical viewpoint, but a need was felt when they tried to relate the medical approach to the approach of other groups. From this need grew the organizing of the Health and Medical Care Council of Alabama. And perhaps the greatest function of the Council is its gathering together interested groups for discussion and planning. Through this Council it is possible for the various member organizations which represent a cross section of our population to learn the problems of other groups and what the interaction between these organizations will do to the various groups and their respective problems.

Your Committee also prepared a beginning plan of five points. They are listed as follows.

1. Direct appropriations for the building of hospitals and clinics in sparsely settled areas.
2. Enlargement of the Medical School facilities for the education of more doctors, nurses, dentists and technicians.
3. The extension of voluntary insurance coverage to all classes of people and extension to the indigent groups through appropriations by local and state governing bodies.
4. Inspecting, grading and licensing of hospitals and clinics for the purpose of improving the medical staffs and hospital facilities and services.
5. Plans for the care of old age and destitute people, maybe through nursing homes.

The first step in the work with the Health Council came to fruition on February 10 of this year. On that day thirteen state-wide organizations sent representatives to a work conference in Birmingham. The problems which were discussed were:

1. Ways of getting hospital care and medical services extended to more people.
2. Recruitment, training and placement of personnel for medical service in Alabama.
3. Inspecting, grading and licensing hospitals in Alabama.
4. Education and participation of lay and professional groups in the planning and operation of county health and medical care councils.

From these discussions came recommendations, which recommendations are being taken back to the respective organizations

by the delegates. The thirteen organizations, one of which is your State Association, will pass upon the recommendations and report their action back to the Council. From these reports will grow a concerted attack by the various groups on the problems at hand. Thus we may have a united front and can progress together, assured that our action is both well-thought out and planned in a manner which will do the greatest good for all.

The purpose of this article is really three-fold. Herein has been emphasized the fact that we live in a society which, because of the effect your actions will have on other groups, demands to know your plans. It is also hoped that this article will serve as some background for at least one phase of your annual convention which comes next week. And lastly the emphasis here has been on the positive work toward alleviating poor health in Alabama. Thus it may be seen that even though the physicians of Alabama are not going overboard and promising anything and everything just to get a political following, they are progressing along sound, logical lines toward that ever constant goal of improvement in health for all.

Optic Neuritis—Of the chronic infectious diseases that cause optic neuritis and retrobulbar neuritis the most common offender is syphilis. Optic neuritis occurs as a complication of the second or papillary stage. With vigorous treatment, recovery of vision may be expected in a great majority of cases. In the primary optic atrophy of neurosyphilis, however, loss of vision is permanent. Since the introduction of more effective treatment of syphilis, ocular complications of syphilis are rarely seen. A generation ago syphilis was presumably responsible for more cases of optic neuritis and optic atrophy than all of the other chronic infectious diseases. The incidence of syphilitic optic neuritis is now so low that even in a large clinic it is considered rare. Primary optic atrophy due to syphilis of the central nervous system may be a late complication and is known to occur fifteen or twenty years after the initial lesion. When it does occur in the late stages of neurosyphilis, optic atrophy does not yield satisfactorily to treatment.

Optic neuritis develops in cases of chronic diabetes and advanced vascular changes. The most significant changes in the retina or optic nerve in cases of diabetes occur among persons who have had diabetes for several years and in whom the disease has presumably been controlled by insulin. The vascular changes in diabetes are not altered by control of the sugar metabolism or by any form of therapy.—*Benedict, Texas State J. Med., March '49.*

WOMAN'S AUXILIARY

Mrs. G. G. Woodruff, Anniston, President

JEFFERSON UNIT

The Jefferson County Medical Auxiliary was organized twenty-three years ago by the late Mrs. Seale Harris, and has grown from just a few members to one-hundred seventeen at present. The Auxiliary holds one meeting a month, October through May. The officers serving this year are: Mrs. Paul Woodall, President; Mrs. J. M. Mason III, Vice-President; Mrs. Hurley Knight, Secretary, and Mrs. Ralls Coston, Treasurer.

The project for the year is to make improvements at the Nursing Home at Jefferson-Hillman Hospital, and a Bendix Washer has been installed for the use of the nurses. Also, \$100.00 has been donated to the Home. The Auxiliary has a \$1000.00 scholarship to be loaned, at no interest, to any deserving Alabama boy going through medical training. In addition to this scholarship, five nursing scholarships have been established in the city hospitals which provide nurse training. At Christmas a generous box was packed for the Children's Aid Society.

The programs this year have been given by outside speakers, but all from Birmingham. One of the outstanding programs of the year has been on Socialized Medicine, which was handled very adequately by Mrs. Fred Downing.

Members from Jefferson County who are serving this year as officers and committee chairmen for the state organization are: Mrs. W. J. Rosser, President-Elect; Mrs. Charles F. Lewis, Auditor; Mrs. W. D. Warlick, Program, and Mrs. R. E. Tyler, Nominating. Mrs. Rosser is also Program Chairman.

MADISON UNIT

The Madison County Auxiliary meets on the second Wednesday of each month, September through June, and the program for each month is given by an Auxiliary member.

In September, Community Chest Month, the speaker was Mrs. Robert Bibb. Beginning this month and continuing through the spring, hundreds of men and women will

voluntarily put personal affairs in the background to do their civic duty. In October, Public Health Month, Mrs. Henry Anderson had for her discussion "Pathways of Progress—Health, Education, and World Understanding." November, Tuberculosis Seal Sale Month, Mrs. Thomas Dilworth discussed the crusading spirit of America that will eventually conquer the Great White Plague. December was set aside as Goodwill Month, and Mrs. James Holliman had as the topic of her talk "Peace on Earth, Good Will to Men." In January, March of Dimes Month, Mrs. John Lary and Mrs. G. B. Huckaby spoke to the Auxiliary. They stressed the fact that rehabilitation is security and happiness restored.

February was Red Cross Month, and Mrs. John Moorman discussed the true meaning of the Red Cross as an essential auxiliary of our Armed Forces and a key agency in civilian defense plans. In March the Auxiliary was hostess for Doctors' Day. Mrs. J. O. Wikle will speak in April, which is Cancer Month. Give time and money will be her plea, for cancer offers little warning of its approach. This year 184,300 Americans will die of cancer. Mrs. Moody Walker will give the May program, and, as May has been named Crippled Children's Month, her discussion will be on science, medical skill and research combined which makes the world a better place in which to live. June will close a very busy year, and so a tea or picnic will be just the kind of entertainment to look forward to.

As a special project for the year a refrigerator was bought for the Nurses Home of the local hospital. Twenty-five dollars was given to the Red Cross, and \$5.00 to the Jane Crawford Fund. Serving as officers in the state organization are: Mrs. T. E. Dilworth, 4th Vice-President; Mrs. Robert Bibb, Legislative Chairman; Mrs. James L. Jordan, Revision, and Mrs. J. Frank Jordan, Research and Romance of Medicine.

THE STATE ORGANIZATION

Let's keep one another posted as to the work being done in our auxiliaries. We all

need ideas as to how our organizations may be made finer. The County Presidents are as follows:

Calhoun County—Mrs. Knox Spearman, Christine Circle, Anniston.

Colbert County—Mrs. Loren Gary, Tusculum.

Cullman—Mrs. J. G. Daves, Cullman.

Dallas—Mrs. Richard Grayson, Hooper Drive, Selma.

Etowah—Mrs. Harry Campbell, Bellevue Highlands, Gadsden.

Jefferson—Mrs. Paul Woodall, 21 Ridge Drive, Birmingham.

Jefferson—Mrs. W. N. Payne, Bessemer.

Madison—Mrs. Harry J. Parker, 301 Sunset Drive, Huntsville.

Mobile—Mrs. Mac J. Roberts, 601 South Monterey, Mobile.

Morgan—Mrs. T. N. Guyton, 702 Oak Street, Decatur.

Montgomery—Mrs. Fred Reynolds, 8 College Street, Montgomery.

Tuscaloosa—Mrs. Harvey Searcy, Tuscaloosa.

Walker—Mrs. William Ivey, Jasper.

Mrs. J. R. Chandler, 830 South 14th Street, Bessemer, Alabama, who is the Treasurer for the Woman's Auxiliary to the State Medical Association, asks that all County Auxiliaries mail state and national dues to her as soon as possible—\$1.00 for national dues and \$.50 for state dues. This will be \$1.50 for each member. The state dues have been 25c in the past, but at the Executive Board meeting on September 30 it was recommended to ask the County Auxiliaries to give a voluntary donation of 25c in addition to the regular amount making \$.50 for the state. It will be voted upon in April.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

D. G. Gill, M. D.
State Health Officer

HEALTH IN THE LATER YEARS

Undoubtedly you remember a certain best-seller of a decade or more ago. Written by Walter B. Pitkin, it was called "Life Begins at Forty." It was one of the most popular books ever published in this country, and its author soon became one of the best known men in the United States.

As one might gather from the title, "Life Begins at Forty" is an attack upon the old idea that the average person reaches his peak at forty years of age and soon thereafter is on his way to the occupational scrap heap. Millions of men and women have suffered from that fear. They and many other persons have suffered even worse from the application of the theory to industrial and employment practices. To them, or many of them at any rate, the book brought new hope and a measure of courage. To many employers it brought a new, a fairer and a more humane concept of the older person's place in the nation's scheme of things.

World War II also brought a considerable measure of hope and usefulness to those who had reached and passed middle age. Younger men were in the armed forces. The void they had left brought a call for all those who could do a good day's work. Such artificial and unfair things as arbitrary age limits went into the discard. The many jobs that had to be attended to on the home front, from payless air raid duty to the handling of powerful and expensive instruments of production, had to be entrusted to those who were left at home. These included the physically handicapped. They also included the men and women to whom Dr. Pitkin's message was addressed, the older people. It is to the great credit of the members of both of these large groups that they more than made good. They did a highly successful job. Indeed they did a vital job in every respect. And they did it in such a way that the home front did not falter any more than the fighting front did.

But the war is over now. The men and women who were in uniform are, for the most part, back in civilian clothes. They are also back at their old or other civilian jobs. Those who stepped into the breach

stepped out again. Some went back to their easy chairs and firesides. Many, unfortunately, have died. But others are still living and eager to work. They are facing the problem they faced before the Japanese struck at Pearl Harbor. Those particular individuals now face the added handicap of added age. Others, who have reached middle and old age more recently, now have the problem of finding useful work to do under fairly normal conditions in the industrial world.

You hardly need to be told that economic problems are by no means the only ones that beset those who have left their youth behind. There are many others. One of the most troublesome is the problem of health.

The health problem facing the older person, like other problems with which he must deal, is an increasing one. The nation as a whole is growing older at a rather disturbing rate. Every year brings an increase in the ratio of older people to the total population. The period between 1880 and 1940 was sixty years. That is rather a brief time in the history of a state or nation. Yet during that short time the ratio of males under five years of age to the total male population dropped sharply. In 1880 it was 17.5 per cent. In 1940 it was only 8.1 per cent. That was a decline of more than 50 per cent. During the same 60-year period the ratio of females under five years of age to the total female population dropped from 16.4 to only 7.9 per cent. That too was more than 50 per cent.

And what of those of the older age groups?

The proportion of males over 44 years of age to the total male population increased from 13.7 per cent in 1880 to 26.9 per cent in 1940. During the same period females over 44 increased from a mere 12.8 per cent to 26.4 per cent of the total. Thus the 40-year increase for men was nearly 100 per cent. For females it was more than 100 per cent.

Like a disease, middle age has certain ways of letting us know that it is approaching. Some of its signals are so inconspicuous that most of us tend to overlook them. Others are so marked that we cannot ignore them unless we make ourselves blind to their presence.

The hair may turn slightly gray. Or it may drop out faster than it is replaced.

Thin spots develop. As time goes on, those thin spots may become bald spots. Fortunately, the passing of the years does not bring such changes to every-one. At least it does not bring them at the same age period. Some people begin graying long before they reach middle age. Others begin developing incipient bald spots while in their twenties. Still others keep for many years both the quantity and color of hair that they had in their youth. So hirsute changes are not always reliable indications of age changes. But they often are.

The eyes also begin showing the strain of advancing years. Reading small type is no longer easy without visual aid. Older people may begin experiencing severe headaches that cannot be explained by a regular physical examination. When they go to their oculists at the suggestion of their family physicians, they find that those troublesome headaches are caused by eye-strain: Eyes that could "take it" in the past cannot "take it" any longer. They must have relief, or assistance. So glasses are prescribed. As time goes on, those being worn are no longer adequate. The aging process causes the eyes to require more help than the old glasses provide. So there is another visit to the oculist. Stronger lenses are prescribed, and they bring relief for awhile. This goes on and on. Usually by the time the mid-forties point is reached in the swift flight of time there has been a radical departure in this eye-aiding process. The patient now must have bifocals. They, as you probably know, consist of one kind of lens for ordinary use and another kind for "close work," such as reading, sewing or examining cloth material. For convenience, these two types of lenses are provided in a single frame: You do not have to keep up with one pair while you use another. Admirers of Benjamin Franklin remind us that we have him to thank for that great convenience.

Unfortunately, dental defects are not confined to those who have reached the theoretical half-way point in life's race. Young children have them to a discouragingly great extent. But the wearing-out process begins to show in the teeth too. Millions of people whose teeth never gave them much trouble while they were young find themselves virtually dental cripples at 40 or 45. That is especially true of those who have

not given their teeth the attention they should have had.

The skin also changes. The smooth skin that gives attractive young women of high school and college age so much of their beauty is succeeded in later years by another kind. It is tougher. It is thicker. It is more ruddy. If the aging process has gone far enough, it is also marked by furrows.

These and other reminders of time's changes are visual. They are more noticeable to others than they are to ourselves.

But there are other signs that mean much more to us than to anyone else. They are our feelings. The store of energy that appeared all but inexhaustible in childhood and youth now knows definite limitations. Walking a few blocks to work may prove more exhausting than an all-night dance used to. The stomach that never gave you the slightest bit of trouble as a youngster may have to be given a great deal of care and attention. It is no longer possible to work and play hard on just a few hours of sleep at night. Much more sleep and rest are now required. You no longer trip lightly up stairways. Instead, you wait for the elevator. And, if the elevator is not running, you walk up slowly and give yourself plenty of rest at each landing. A country doctor spoke for many when he said: "Age just creeps up on a fellow, and he just cannot help feeling it."

This does not mean that the person of middle or old age is done for physically. He can enjoy many pleasures. There are any number of sports in which he may safely indulge. There is no reason why he cannot continue to do a reasonable amount of work. The spectre of joblessness need not worry him for a long time if he has developed skill at his job and if the employment situation remains close to normal. If he makes a wise use of the health assets he still has, life can continue to bring him great satisfactions.

Nevertheless, he should take cognizance of the changes brought by time. He should act his age. Make no mistake about that.

The changes brought by the passing years affect different people differently, in an emotional sense. Some are unwise enough to refuse to pay any attention to them. They make up their minds they will make no concessions at all. They tell you that they are as vigorous as they ever were. They are

sure, they say, that they can do as much as they could twenty years ago. They used to dance until the wee small hours of the morning. They insist they will keep on dancing until the wee small hours of the morning. They used to eat and drink whatever they felt like eating and drinking. They tell you they will keep on doing so. If their stomachs "act up," they seek relief by taking quantities of patent medicines claiming to cure such conditions. If they have been playing singles in tennis, they keep on playing singles: Any suggestion that they change to doubles is greeted with hoots of scorn. If they have been playing golf "by fits and starts," they keep on playing that way: As they did when they were younger, they stay off the golf links for weeks or months at a time. Then they go out and play 36 holes in a single afternoon. If they have been eating whatever their fancy called for, they continue eating like that. They did not pay much attention to overweight when they were young. They refuse to do anything about it now that they are older.

Those in the other group are wiser, much wiser.

They face the realistic fact that you cannot destroy something by refusing to admit its existence. They realize that time does bring its inevitable changes. They know that there is wear and tear upon the human machine as well as upon a dynamo or an automobile engine. In brief, they do not run away from unpleasant facts.

These wise people do what the others refuse to do. They choose amusements that require less in the way of physical strain. They master the fine art of moderation. They learn to relax. They take it easy when they can. They learn to control tension. They get away whenever they can from the high-pressure conditions under which most of us live. They control their emotions. They get more physical rest than they used to get. They show more regard for their stomachs. They watch their waistlines and do something about overweight. They do not run when they can walk. They do not walk fast when they can stroll along at a pleasant rate. They keep a closer watch upon their general health. If they are unusually wise, they have complete physical checkups at periodic intervals.

The passing of the years brings its satisfactions, as well as its problems. The changes it produces are by no means altogether for the worse. There is no occasion to become unduly worried about the effects of those changes upon our health. But we all need to face realities. We need to make whatever adjustments may be needed to the fact that we are no longer young.

BUREAU OF LABORATORIES

H. P. Sawyer, M. D., Director

SPECIMENS EXAMINED

January 1949

Examinations for diphtheria bacilli and Vincent's	350
Agglutination tests (typhoid, Brill's and undulant fever)	1,013
Typhoid cultures (blood, feces and urine)	432
Examinations for malaria	308
Examinations for intestinal parasites	3,311
Serologic tests for syphilis (blood and spinal fluid)	28,338
Darkfield examinations	20
Examinations for gonococci	2,382
Examinations for tubercle bacilli	2,621
Examinations for meningococci	0
Examinations for Negri bodies (microscopic)	100
Water examinations	1,241
Milk and dairy products examinations	3,446
Miscellaneous	377
Total	43,939

BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

	Dec. '48	Jan. '49	E. E.* Jan. '49
Typhoid	3	2	4
Typhus	5	8	33
Malaria	4	4	75
Smallpox	0	0	1
Measles	398	1570	92
Scarlet fever	71	75	98
Whooping cough	23	80	84
Diphtheria	61	55	35
Influenza	99	397	4319
Mumps	47	178	116
Poliomyelitis	11	9	2
Encephalitis	0	0	1
Chickenpox	215	467	166
Tetanus	4	0	1
Tuberculosis	151	259	185
Pellagra	0	2	2
Meningitis	5	2	10
Pneumonia	164	256	593
Syphilis	705	633	1439
Chancroid	6	6	11
Gonorrhea	306	533	563
Tularemia	3	2	1
Undulant fever	4	11	2
Amebic dysentery	0	2	1
Cancer	218	317	0
Rabies—Human cases	0	0	0
Positive animal heads	22	31	0

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS FOR DECEMBER 1948, WITH COMPARATIVE RATES

Live Births, Stillbirths, and Deaths by Cause	Number Registered During Dec. 1948			Rate* (Annual Basis)		
	Total	White	Colored	1948	1947	1946
Total live births	7373	**	**	28.6	28.1	31.4
Total stillbirths	189	**	**	25.0	26.5	32.4
Deaths (exclusive of stillbirths)	2272	1289	983	8.8	9.7	8.5
Infant deaths:						
under one year	299	167	132	40.6	46.0	37.9
under one month	203	123	80	27.5	30.0	27.0
Deaths by Cause						
Typhoid and paratyphoid fevers 1, 2						0.8
Cerebrospinal meningitis 6	3	3		1.2	1.6	0.8
Whooping cough 9	4	3	1	1.6	4.3	3.1
Diphtheria 10	2	2		8.0	2.3	2.4
Tuberculosis, all forms 13-22	74	31	43	28.7	36.1	32.6
Malaria 28					0.8	
Syphilis 30	16	2	14	6.2	12.0	11.4
Influenza 33	24	12	12	9.3	7.0	12.2
Measles 35						0.8
Poliomyelitis 36	1	1		0.4	0.4	0.4
Encephalitis 37					0.8	
Typhus fever 39	3	1	2	1.2		
Cancer, all forms 45-55	204	138	66	79.2	72.2	76.5
Rheumatic fever 58	1		1	0.4	***	***
Diabetes mellitus 61	45	25	20	17.5	12.8	18.4
Pellagra 69	3	3		1.2	1.9	3.1
Alcoholism 77	8	5	3	3.1	1.9	0.8
Intracranial lesions 83	240	125	115	93.1	101.7	82.4
Other diseases of nervous system 80-82, 84-89	28	20	8	10.9	***	***
Diseases of heart 90-95	549	364	185	213.0	234.8	186.3
Diseases of arteries 96-99	20	8	12	7.8	14.7	9.0
Other diseases of circulatory system 100-103	7	2	5	2.7	***	***
Bronchitis 106	6	3	3	2.3	1.9	1.6
Pneumonia, all forms 107-109	116	55	61	45.0	62.1	40.4
Diarrhea and enteritis, under 2 years 119	12	5	7	4.7	1.9	3.9
Diarrhea and enteritis, 2 years and over 120	1	1		0.4	1.6	1.2
Appendicitis 121	6	4	2	2.3	1.9	4.7
Hernia and intestinal obstruction 122	10	4	6	3.9	6.6	5.1
Cirrhosis of liver 124	12	8	4	4.7	3.5	5.5
Nephritis, all forms 130-132	158	76	82	61.3	63.6	59.2
Other diseases of genito-urinary system 133-139	23	16	7	8.9	***	***
Diseases of pregnancy and childbirth 140-150	14	7	7	18.5	20.2	22.9
Puerperal septicemia 140, 142a, 147	5	2	3	6.6	2.7	8.5
Congenital malformations 157	30	25	5	4.1	***	***
Suicide 163, 164	15	12	3	5.8	8.5	6.3
Homicide 165-168	38	9	29	14.7	11.2	16.1
Accidental deaths 169-195	157	100	57	60.9	80.7	64.3
Motor vehicle accidents 170	61	45	16	23.7	29.5	23.9
All other defined causes	279	168	111	108.3	145.5	139.2
Ill defined and unknown causes 199,200	163	51	112	63.2	73.3	58.0

*Birth and death rates per 1,000 population; infant death rate per 1,000 live births; stillbirths per 1,000 total births (stillbirths included); specific causes per 100,000 population; puerperal causes per 10,000 total births. All rates are based upon the December report of the years specified.

** Not available.

***Included with "All other defined causes" in 1946 and 1947.

BUREAU OF SANITATION

Arthur N. Beck, M. S. in S. E., Director

A REVIEW OF PUBLIC WATER SUPPLY SYSTEMS IN ALABAMA

Contributed by

J. L. Crockett, Jr., B. S., M. S.
Sr. San. and Pub. Health Eng.

An Act of the Legislature of Alabama defines a public water supply system as one serving water for human consumption or domestic use to more than fifty persons, except where the water is used solely on private property upon which there is no industrial camp, or hotel, or temporary or permanent resort. General supervision and control of such supplies is vested in the State Board of Health which has delegated the State Department of Health as its representative.

Twenty years ago the State Department of Health listed 165 public water supply systems under its supervision. These systems served approximately 861,000 persons or 33 $\frac{1}{3}$ per cent of the state's population at that time.

As of December 31, 1948 there were 314 public water supply systems in Alabama. These are supplying water to 1,700,000 persons who represent 50% of the state's unofficial estimated population of 3,400,000. According to a recent survey, Alabama's public water supplies are capable of producing 249,654,000 gallons of potable water daily. The daily usage of water is 151,813,000 gallons or an overall average of 87.5 gallons per capita. This figure includes water from public supplies used for industrial purposes.

Included in the 314 public water supply systems are 52 dependent systems obtaining water from other supplies. This leaves 262 plants actually engaged in the production of water for public use. Deep wells predominate in number as sources of water, with 140 systems as compared to 69 and 53 systems depending upon streams and lakes and springs or shallow wells, respectively. On the other hand, the daily usage of water from surface supplies more than doubles the combined usage from deep wells and shallow ground sources.

Relatively speaking, Alabama is blessed with comparatively soft waters. In only a few instances is the soap consuming power

of the water sufficiently high to be of noticeable economic disadvantage. The supplies with a water of this nature are small and the cost of softening is usually financially impractical. Fifteen communities or municipalities use water high in iron. Twelve of these now have facilities for removing iron and two are planning corrective measures. Waters from many deep wells and a few springs are corrosive. This has the same effect on the consumer as iron-bearing waters in that iron is delivered from piping in the distribution system. Nineteen plants now have facilities for correcting the corrosive nature of water.

Chlorination of water is widely practiced over the state. One hundred and eighty nine plants, serving 1,439,000 persons or 83 per cent of the total population, obtaining water from public sources safeguard water quality with chlorine treatment. The remaining 73 plants, with only one exception, use deep wells as sources of supply. Only on rare occasions is water from deep wells piercing water bearing sands of questionable bacteriologic quality and the source of contamination can usually be traced to leaky or improperly constructed surface reservoirs.

On the whole, the public water supply systems of Alabama now have a capacity to supply reasonably the areas served. There are a few small communities without public water supply systems. Although plans have been prepared for some of these, high construction cost has delayed development of the projects.

Incidence of Bronchogenic Carcinoma—The incidence of primary pulmonary carcinoma of bronchial origin has shown a remarkable increase in recent years. Prior to 1910, only 2 per cent of all deaths from cancer were attributed to this type of tumor. Today, the statistics show that in from 12 to 15 per cent of all such cases coming to autopsy the disease is of bronchial origin. Even more surprising are the figures showing that 8 per cent of all cancer is of this type. These statistics seemed unbelievably high until I considered that in a period of only one year there have occurred 4 proved and one strongly suspected case in the local, relatively small 75 bed hospital.

What are the reasons for this great increase in the incidence of bronchogenic carcinoma? Some believe the increases in the uses of tobacco, gasoline and other coal-tar products may be factors.—*Knight, J. Florida M. A., March '49.*

BOOK ABSTRACTS AND REVIEWS

More Than Armies: The Story of Edward H. Cary, M. D. By Boothe Mooney. With Introduction by Dr. Morris Fishbein. Cloth. Price, \$5.00. Pp. 276. Dallas: Mathis, Van Nort & Company, 1948.

Dr. Edward H. Cary, distinguished Alabamian-by-birth, is more fortunate than most men who reach the heights of renown: He did not have to die before becoming the subject of a biography. He must find it a pleasant experience to taste of the praise which is freely dispensed by Dr. Morris Fishbein in his Introduction and by the author in the biography proper.

The Union Springs in which Dr. Cary was born and spent much of his boyhood has changed considerably no doubt since the 1870's. But then, as it would be now, it was an excellent place for a future leader of American medicine to gain his first experience in getting along with people and build the sturdy resourcefulness that showed itself so conspicuously in the battles that were to mark most of his professional career.

Alabama lost the future Dr. Cary in 1890 when he yielded to the urging of a brother to follow him to Texas. The decision to leave Union Springs was reached after a tough inward fight, made tougher by a deep-rooted feeling that he ought to become a physician. Fortunately for American medicine, he was able to grow up with the big new state and become a doctor too. But that did not seem possible at the time. Soon he became an enthusiastically loyal resident of Dallas.

His brother was in the dental supply business, and, having nothing else in view, he became a traveling salesman for that firm. He was a good salesman too. But, as time went on, he became more and more conscious of a desire to study medicine. By 1895 it had reached the point of realization. In that year he entered Bellevue Hospital Medical College in New York City. He was graduated there in 1898 and, after pondering the tempting prospect of a career as a teacher and medical practitioner in New York, returned to Texas. In Dallas he opened his office. There he remained to become a power in his profession.

In a short time he was offered, and accepted, a position on the faculty of the newly established University of Dallas Medical Department. Thus he was launched in the second activity that appealed to him so much—medical teaching. As there was considerable opposition to the school among his fellow-physicians, he also found himself in the middle of a warmly contested controversy. There were to be many others.

This transplanted Alabamian soon began to go places in his profession and in medical organization. In 1917 he became president of the State Medical Association. Later he served on several important committees of the American Medical

Association. And finally, in depression-ridden 1932, he reached the top of that powerful group.

Few heads of large business or professional organizations have ever been so active. He spoke on medical problems from one end of the country to the other. During the two years he served, first as president-elect and then as president, he traveled nearly 100,000 miles. On every possible occasion, he fought to maintain a distinct line between government and medicine. Proposals for federally financed medical care met with his particularly vigorous condemnation.

His work for the A. M. A. did not end when his term expired. He has continued to speak on the problems of medical care. He has continued giving interviews on those problems. He has kept up his interest in the progress of his adopted city and state. He has been especially active in advancing the usefulness and influence of the Baylor School of Medicine, into which the University of Dallas Medical Department grew when the death knell of the proprietary medical college was sounded. He has worked just as hard for the integration of the Baylor School of Medicine into the mammoth new Southwestern Medical College. He is still active in these and numerous other fields.

Mr. Mooney has done an exhaustive job of research. Alabamians, who take a native-son pride in Dr. Cary's success, will find particular pleasure in reading this biography. It should also be of considerable interest to fellow-physicians and the general reader in other parts of the country.

John M. Gibson

Modern Clinical Psychiatry. By Arthur P. Noyes, M. D., Superintendent, Norristown State Hospital, Norristown, Pennsylvania. Cloth. Price, \$6.00. Philadelphia and London: W. B. Saunders Company, 1948.

The third edition of this text appears after considerable revision of material previously presented, and the addition of new chapters on Child Psychiatry, Shock and Other Organic Therapies, and Psychotherapy. The author devotes little space to historical surveys of the evolution of psychiatric thought and borrows freely, and without obvious bias, from both analytical and psychobiological disciplines. The chapter on Psychiatry and General Medicine is far too brief to provide an adequate appreciation of current opinions in psychosomatic medicine. The employment of the 1934 classification of the American Psychiatric Association is unfortunate for many reasons, some of which the author identifies. The failure to supply alongside the more widely used dynamic one tends to detract from the title's promise of "Modern Psychiatry" or its value as a text. The student will certainly be

needlessly confused by the identification of clinical entities based on the precipitating agent or episode, as, for example, the prison psychoses. The chapters on therapy are well-organized and reflect the practical approach of the author and his broad experience.

This book succeeds in providing an unemotional presentation of Modern Clinical Psychiatry. The material is presented concisely and abstruse speculation is avoided. Descriptions are generally clear and tri-dimensional yet sentences like "The delirium occurring during the febrile period of an infection is often spoken of as a febrile delirium" have no place in a psychiatric text—certainly not in its third edition.

Philip S. Bazar, M. D.

General Endocrinology. By C. Donnell Turner, Ph. D., Associate Professor of Zoology at Northwestern University. Cloth. Price, \$6.75. Pp. 604, with illustrations. Philadelphia & London: W. B. Saunders Company, 1948.

This book is written primarily for the academic student rather than for the medical student or practicing physician. The subject matter is approached from an experimental rather than a clinical standpoint. Attention is directed to the operation of coordinatory mechanisms in plants, invertebrates and vertebrates; the human being has been chosen to illustrate the operation of biologic principles wherever possible. This book is not intended for the practicing physician but more for the premedical student.

Charles A. Willis, M. D.

AMERICAN MEDICAL ASSOCIATION NEWS

A. M. A. HAS NO OFFICIAL SPOKESMAN

The American Medical Association has not now and never has had an official spokesman, points out an editorial appearing in a recent issue of *The Journal of the American Medical Association*.

The editorial follows in part:

No committee, council, board, officer, or employee of the association is charged with establishing policies for the American Medical Association. The association has not now and never has had an official spokesman.

In February, the Board of Trustees announced the 12 point program, which is an expansion of other programs which the House of Delegates accepted and announced over a number of years. In making this announcement the chairman of the Board of Trustees is not establishing any new policies. The announcement is made for information of the medical profession and the public concerning the activities of the Board of Trustees.

The employees of the American Medical Association now number about 800. Many councils, committees, and bureaus are charged with specific duties by the constitution and by-laws. The president of the association is elected annually as president-elect and succeeds to office one year following his election. His duties are specifically defined by the by-laws, as are also the duties of each of the councils, committees, and officers.

All officials of the association, including the president, the president-elect, the secretary, and the chairman of the Board of Trustees, make public appearances and are interviewed. When they speak, they endeavor to interpret the policies of the House of Delegates. The employees of the association, including the general manager, the editor, the secretaries of the various councils and committees, and the directors of the bureaus, also make many public appearances; when they speak or when they are interviewed, they also present the policies adopted by the House of Delegates.

Recently the association has established a division of public relations and has employed special public relations counsel in connection with a program of education of the American people regarding the present status of medical care and the proposals that have been made for extension of medical care. These agencies represent the American Medical Association. When they issue releases to the press or make public pronouncements, as they frequently do in delivering addresses, they also present the point of view of the House of Delegates.

The statements here made are intended to correct unwarranted misrepresentations as to the association. The House of Delegates at the St. Louis session reaffirmed the point of view of the American Medical Association in its determined opposition to compulsory sickness insurance. The House of Delegates also recommended the widest possible ex-

tension of voluntary hospitalization and sickness insurance but did not consent to the formation of a national insurance company under the sponsorship of the American Medical Association. These are the two most prominent issues now discussed in editorial opinion throughout the United States.

Until the House of Delegates acts to change a decision, every council, bureau, officer, and employee is bound by the prevailing actions of the House of Delegates.

NATIONAL HEALTH MEETING BY A. M. A. TERMED "IMPRACTICAL"

Any proposal for the American Medical Association to call a National Health Conference "would be impractical," says Dr. Elmer L. Henderson, Louisville, Ky., chairman of the Board of Trustees, until the Federal Security Administration makes a full report on the 16 sections which comprised Federal Security Administrator Oscar Ewing's National Health Assembly, held in Washington in May 1948.

In a statement published in *The Journal of the American Medical Association*, Dr. Henderson said that "the reports of these sections have not yet become available except for the inclusion of the condensed report of the section on medical care."

Dr. Henderson's statement follows:

In May 1948, a National Health Assembly was called by Federal Security Administrator Oscar Ewing in which all groups with an interest in medical care were represented. The assembly met in 16 sections, each of which brought in a report constituting a plan for progress in health activities. The reports of these sections have not yet become available except for the inclusion of the condensed report of the section on medical care, by the Federal Security Administrator, in a report entitled "The Nation's Health: A Ten Year Program," published in September 1948.

When the full reports become available, the valuable material developed at the National Health Assembly may well serve as a basis of discussion and implementation of any program for the extension of medical care. When the National Health Assembly adjourned, most of those in attendance believed that the executive committee would

carry on the studies and recommendations of that conference, but thus far only one meeting has been held.

Otherwise, as far as can be determined, nothing has been done. The American Medical Association is ready to assume leadership in carrying out the recommendations of all of the sections which do not disagree with the fundamental policies established by the House of Delegates of the American Medical Association. Apparently the one point of issue remains the question of compulsory sickness insurance.

The report of the section on medical care recommended the widest possible extension of voluntary hospitalization and sickness insurance. The House of Delegates at its meeting in St. Louis again reaffirmed its opposition to a system of compulsory sickness insurance.

The Board of Trustees of the American Medical Association is in constant touch and holds frequent conferences with various consumer groups. Proposals have been made for the American Medical Association to call another national health conference. It would be impractical to try to assemble another health conference until the report of the Assembly held in 1948 becomes generally available and until the reaction of the profession concerned and the public to those reports can be developed.

The Board of Trustees wishes it clearly understood that it is prepared at the proper time not only to continue conferences already instituted but to do whatever else is necessary to assure a better distribution of the high quality of medical care now existing in the United States.

MAYO CLINIC PHYSICIANS SUPPORT A. M. A. CAMPAIGN

Physicians of the Mayo Clinic, Rochester, Minn., are supporting the A. M. A. campaign against national compulsory sickness insurance virtually 100 per cent, a letter from representatives of the clinic and of the Mayo Foundation revealed recently.

The letter, appearing in *The Journal of the American Medical Association*, was signed by Dr. Arlie R. Barnes, Rochester, chairman of the Mayo Clinic Board of Governors, and Dr. Victor Johnson, Rochester,

director of the Mayo Foundation for Medical Education and Research.

Two hundred and ten members of the staff of the clinic and 340 fellows of the foundation, which is 97.7 per cent of the staff and 99.7 per cent of the fellowship personnel who are members of the local county medical society, the Olmsted-Houston-Fillmore-Dodge County Medical Society, contributed to the A. M. A. fund, according to the letter.

These figures are exclusive of 20 staff members and 26 fellows who have not yet had the opportunity to contribute because of illness or absence from Rochester, the letter says, adding:

"There is every reason to believe that the response of this group will be equal to that cited above. The members of the staff and the fellows of this institution are well aware of the efforts of the American Medical Association to devise methods for distributing medical care more widely by means of voluntary prepayment plans, and, almost unanimously, they desire to support these efforts.

"It is to be hoped that such methods for extending medical care as might be devised by the American Medical Association will safe-guard or even improve the present high quality of medical service, and that the program will be such as to enlist the continued wholehearted support of virtually all the physicians of the country. It is highly desirable that physicians present a united front in efforts to improve the distribution of medical care."

ANTIBIOTIC MISTS YIELD VARIABLE RESULTS AGAINST SINUSITIS

Daily treatment with fine mists of penicillin or streptomycin apparently gives most sinusitis patients no more relief than do other treatments which doctors have been using against the disease for years, according to three New York doctors.

Writing in a recent issue of *The Journal of the American Medical Association*, the doctors—Eduardo R. Pons, Jr., Walter M. Glass, and Bettina Garthwaite, of the Departments of Medicine and Otolaryngology of the College of Physicians and Surgeons, Columbia University, and the Presbyterian Hospital—say:

"In the ordinary case of chronic purulent sinusitis, antibiotic aerosol therapy given once daily appears to have no superiority over accepted methods of treatment of sinusitis."

Antibiotic aerosols appear to be extremely useful in treating patients with long-standing chronic sinusitis who have had repeated sinus irrigations or extensive surgical treatment with poor response, patients who do not tolerate sinus irrigations, and patients who have chronic bronchopulmonary disease as well as sinusitis, they say.

The doctors treated 23 patients with penicillin aerosol, 23 patients with ephedrine, a drug that contracts the mucous membranes and has been widely used for sinusitis, and 10 patients with streptomycin aerosol.

All of these patients had had sinusitis continuously for six months, and the average duration of the disease in all except those treated with streptomycin was 11 years.

Treatments were given once daily, six days a week, and were continued up to four weeks.

Relief from sinusitis was about the same in penicillin-treated patients as in ephedrine-treated patients, among comparable cases, the doctors indicate, adding:

"Symptomatic improvement of sinusitis during treatment in cases studied apparently does not depend on the administration of penicillin, but is the result of the improved ventilation and drainage of the sinuses which both methods of treatment provided."

On the basis of symptoms, eight patients treated with penicillin, five patients treated with streptomycin, and eight patients treated with ephedrine were considered decidedly improved. Seven treated with penicillin, two treated with streptomycin, and six treated with ephedrine were moderately improved.

Eight treated with penicillin, three treated with streptomycin, and nine treated with ephedrine had slight or no improvement in symptoms.

Most of the patients receiving streptomycin complained of severe nasal irritation, but no systemic toxicity was noted. Relief of chronic headache and of severe, long-standing symptoms was noted in patients treated with penicillin and in those treated with ephedrine.

Follow-up observations of 20 penicillin-treated patients were made in the first month after treatment. Although 10 maintained the improvement they had made during therapy, seven others showed recurrence of symptoms.

Of the 18 ephedrine-treated patients seen during the first month after treatment, two maintained improvement, six had recurrences, and 10 showed such poor results that they were given penicillin aerosol.

A rate of recurrences similar to that among penicillin-treated and ephedrine-treated patients occurred among patients treated with streptomycin.

MEDICINE FOR BURNS DANGEROUS, DOCTORS WARN

Foille, a preparation for relief of burns, may cause fatal poisoning when used according to directions of the manufacturer, warn Thomas D. Cronin, M. D., and Raymond O. Brauer, M. D., Houston, Texas, in *The Journal of the American Medical Association*.

The two doctors report a case of poisoning and death from carbolic acid contained in foille.

The patient was a 10 year old boy treated for severe burns with dressings saturated with the preparation. The doctors do not say where the death occurred.

Foille should be withdrawn from the market immediately, the doctors recommend.

A. M. A. TRUSTEE URGES ESTABLISHMENT OF COMMUNITY HEALTH COUNCILS

Too much emphasis has been placed upon the payment of doctors' bills as the solution to health problems, says James R. Miller, M. D., Hartford, Conn., member of the Board of Trustees of the American Medical Association.

Dr. Miller addressed the National Institute on Community Health, sponsored by the Chamber of Commerce of the United States, at the Netherlands Plaza Hotel. Purpose of the institute is to stimulate the interest of businessmen and business organizations in their community health problems and to foster intelligent action.

Community health councils are the best answer to the problem of making doctors'

services most effective, Dr. Miller declared, pointing out that the doctor's bill represents only a fourth of the medical expense dollar paid by the American people, and that this proportion is decreasing and not increasing.

"Wherever community health councils have been developed, they have been found effective in promoting the community's health program and in keeping its development in perspective against the community's program as a whole," Dr. Miller said, adding:

"Strong community effort must get behind the establishment of well equipped local health departments, for these are the cornerstones of community health progress."

Although the community has a right to expect strong leadership from the medical profession in removing the economic shock from the cost of medical care, doctors cannot do this alone, he told the group.

Doctors are eager to develop voluntary insurance against costs of hospital and medical care and are increasing their cooperative efforts with labor, management, and with community leaders to do so, Dr. Miller said.

"Health must be earned—it cannot be received as a gift," he emphasized. "Millions of families have to be taught how to live a healthy life in their homes. One half the chronically ill are in their present condition in large measure because of ignorance, willful neglect, or failure to observe and practice even the most elementary principles of hygienic living.

"Their condition is not, as some are led to believe, primarily due to past failures in our medical facilities. Prevention of disease by developing sound health habits on an individual basis in the schools is money well invested for any community."

Only by attachment to a family doctor, whether he practices alone or with a group of his colleagues, will people have the advantages of positive health supervision and the early and comparatively inexpensive detection of serious illness when it can be most successfully treated, Dr. Miller said.

"To make this program effective, physicians must have access to dependable and inexpensive laboratory and x-ray facilities for their patients," he explained.

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CONGESTIVE HEART FAILURE

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Enterprise, Alabama

Congestive heart failure is a condition about which most is known by the specialist but which is most often treated by the average practitioner. It is also a condition which has been in the past and is still to some extent badly managed by the average practitioner. The treatment is too complex to be completely covered in one discussion, but I have gotten together a few concepts which are rapidly coming to the fore as the treatment of choice for congestive failure of the heart.

In the beginning one assumes the diagnosis of congestive heart failure is correct. You are all familiar with the classical symptoms and signs consisting of dyspnea, orthopnea, edema, distended neck veins, cyanosis, pulmonary edema, engorged liver, elevated venous pressure, and an increased circulation time. Whether the heart is failing because of valvular disease, coronary sclerosis, hypertensive changes or metabolic disorders, the treatment is the same.

This treatment, in short, consists of: (1) digitalization, (2) salt restriction, (3) adequate fluid intake, and (4) diuresis. In this list, after the initial digitalization, the rest of the treatment of congestive heart failure consists of ridding the body of an accumulation of edema fluid and the prevention of its reaccumulation.

The first and most important item in our regimen of treatment is the administration of digitalis. About the turn of the century,

digitalis was being very badly used. At that time a patient was digitalized, became edema free, and as soon as he was feeling better digitalis was discontinued, to be started again at the occurrence of more congestive heart failure. However, more recently it has been found that digitalis therapy must be a continuous therapy. There are a few special types of heart disease in which digitalis may be given and discontinued later but those are usually instances in which some extra-cardiac factor is at work.

Until recent years the tincture of digitalis was the time-honored drug of choice. However, because of its loss of potency, difficulty of assay, and error in measuring dosage, the tincture has now become an obsolete drug. The whole leaf digitalis powder has since become the backbone of treatment of congestive heart failure. However, in the past six years the digitalis glycosides have come to the fore as the digitalis preparations of choice. The isolation of purified glycosides has been pursued with the expectation of overcoming some of the factors of uncertainty of the crude digitalis leaf. There are several in common use and some of these are mixtures of glycosides. Only four of them appear to be single principles with negligible impurities; namely, ouabain, digoxin, cedilanid and digitoxin. These purified glycosides are practically identical in their action, and because my experience has consisted almost wholly of the use of digitoxin as an oral preparation, I shall refer

Read before the Southeastern Division of the Association, Montgomery, January 27, 1949.

to that drug as the glycoside of choice. Digitoxin is completely absorbed from the gastro-intestinal tract within six to ten hours after oral administration. Its effect at the end of ten hours is identical with that of an intravenous dose of the same strength. The duration of action of digitoxin is practically the same as with the powdered leaf. The effect of the single digitalizing dose is present for ten to fourteen days. About 1915, Doctors Eggleston & Eggleston first advanced the idea of administering digitalis to a patient to the point of tolerance and then using a maintenance dose for a continued effect. About six years ago, Dr. Harry Gold of New York brought into use a new scheme of digitalization which had previously been unused in the treatment of ordinary cases of congestive heart failure. This method has now become commonplace. His method consists of giving what is practically a full digitalizing dose of digitoxin, 1.2 milligrams, at one time and following this with a daily dose of 0.2 milligrams of the drug. By this method the gastro-intestinal effects of digitalis, nausea and vomiting, are virtually eliminated. Less than 1 per cent of the patients will become toxic by such a method. Granted 1.2 milligrams of digitoxin is not sufficient to completely digitalize every patient, especially those large, heavy hypertensive patients, but by giving this dose and following it with 0.2 milligrams daily, full digitalization is accomplished in a matter of days and the clinical response is that of complete digitalization. There are a few patients, especially small, elderly women with arteriosclerotic heart disease, who will not tolerate 0.2 milligrams of digitoxin as a daily maintenance dose.

As in the treatment with any other drug, the dose must be individualized as to maintenance. This method has tremendous assets, including safety, speed, effectiveness and simplicity, and I believe it is the method of choice for digitalis administration for the average practitioner. Regardless of what digitalis preparation is used, the most important single factor in your practice and mine is that of using one agent over a long enough time to know what you can do with that drug.

Now that the patient with congestive heart failure has been digitalized, we come

to that other equally important factor in the treatment—the elimination of the edema fluid from his body. It is very helpful if one starts with the proposition that edema is not simply an accumulation of water in the body but an accumulation of a solution of salt. This extra-cellular fluid which makes up edema fluid is not only water but about a 1 per cent solution of salt. There are at least four factors which need to be considered in the treatment of any case of edema. They are: (1) water, (2) salt, (3) acids, and (4) organic mercurials.

The prevailing practice with respect to water in the treatment of edema is to restrict the water intake. There must be very few patients who are treated for edema at the present time without restriction of water, and this in spite of the fact that the best evidence indicates that there is no primary trouble in the excretion of water in patients with edema. Contrary to this, one may practically eliminate the congestive failure of the patient after digitalization by giving him six to eight thousand cubic centimeters of water daily. This is due to the fact that when a patient drinks water he passes urine, and the urine is a solution of salt, and the less salt remaining in the extra-cellular spaces, the less water is held in the body.

If one gives a normal individual a liter of water, he excretes it all in the urine within four or five hours. If one gives the subject a liter of salt water, 24 to 48 hours will elapse before he excretes it all. The determining factor in the retention of water in the body is salt. Water restriction, therefore, is not necessary in congestive heart failure but salt restriction is.

The average normal individual takes about 10 grams of salt a day and retains none of it over a period of time, but the patient with heart failure with edema has a diminished capacity to excrete salt. These patients retain salt when taking 10 grams daily and some are so sensitive to salt intake that they continue to retain salt until it is reduced to about one gram a day. Reduction of the intake below one gram a day leads one to a most unpalatable diet.

Finally, the administration of the organic mercurial diuretics deserves much consideration. The organic mercurial diuretic acts upon the kidney chiefly by impairing tubular reabsorption. It causes an increase in the

urinary flow. The diuresis is chiefly a salt diuresis. Not only the water increases the urine but the sodium base increases in concentration as well as in total amount, which suggests that water leaves the tissues as a consequence of the loss of salt from the extra-cellular tissues.

Abundant water intake, salt restriction, digitalis, and organic mercurials may all be necessary in a given case. In some mild cases it is not necessary to restrict the salt intake. Digitalization alone will accomplish all results in some. There are still others in whom, after all this is done, there is no clearing of the edema unless salt is greatly restricted.

There are two outstanding defects in the prevailing use of the organic mercurials. One is that they are reserved for special cases, cases which manifest themselves with all of the classical signs and symptoms of congestive failure and, secondly, most of us fail to provide adequately for maintenance of the diuresis. The patient receives a diuretic to clear the edema and then is allowed to carry on without it until fluid again accumulates. The dose of the mercurial diuretic should be repeated often enough, and, if necessary, once every 24 hours, to maintain an edema-free state.

The best guide to the proper interval of injection is the body weight of the patient. The daily weight is a better indication than the troublesome fluid intake and output measurement. Interval injections should be given as often as necessary to maintain the weight at the low resistant level to which early doses of mercurials reduced it.

There is another group of patients with failure of the left side of the heart who do not show the classical signs of congestive heart failure and yet who have sufficient pulmonary congestion to make them short of breath and to subject them to paroxysms of nocturnal dyspnea. They may be able to do a day's work but from time to time develop an attack of pulmonary edema. They have an increased circulation time of the lungs and an elevated venous pressure in the pulmonary circulation. They are patients with pure left-sided heart failure. This group of individuals obtain very little help from digitalis alone. In this group the organic mercurials, if used in a system involving, first, the production of the full ef-

fects and then the maintenance of these effects by appropriate interval injections, produce results which in every way equal the striking and dramatic results of digitalis in the classical case of early heart failure with auricular fibrillation.

The other diuretics, such as the xanthines, urea and many others, have so little use as diuretics per se that I do not care to discuss them. The use of ammonium chloride with mercurial diuretics in some very difficult cases may prove quite valuable. By administering this acid to the body, the kidney is stimulated to rid itself of base and one may increase his organic mercurial diuresis by 20 per cent.

In conclusion, I would like to outline briefly my own method of treatment of the average case of congestive heart failure. After preliminary examination and electrocardiography, the patient is made comfortable by use of either dilaudid or morphine. He is given a single digitalizing dose of digitoxin consisting of 1.2 milligrams. This is followed by a daily maintenance dose of 0.2 milligrams which may have to be altered according to the individual need. He is placed on a salt restricted diet and for the first 48 hours, if in marked congestive failure, is given only 1 to 1½ quarts of milk a day in addition to all of the water he cares to drink. He is given 1 cc. of Mercuhydrin intravenously the first day and two cc. intravenously daily thereafter, while keeping note of his daily weight. He is given two cc. of Mercuhydrin daily until he ceases to lose weight on this regimen. We then consider this patient at his dry weight. On discharge from the hospital, the patient is kept on his maintenance dose of digitoxin, given instructions regarding a salt restricted diet, and is given the oral preparation of mercury, Mercuzanthin tablets, to take one daily. We then have him come back frequently during the first few weeks to determine the effectiveness of the oral mercurial in controlling the weight at what was determined in the hospital as being the dry weight. About half of our patients may be controlled by the oral mercurial diuretic and digitalis so that interval injections of the organic mercurials may be as infrequent as once a month. During the first few weeks after discharge, by observing the patient's weight, we are able to determine at what interval

the patient needs his injection of organic mercurial.

In reviewing the charts of some 72 patients with congestive heart failure treated at our hospital in the past two years by this method, I found that the average hospital stay of these patients was six days. During this six-day hospital course, the average weight loss was 16 $\frac{3}{4}$ lbs. per patient. Some

patients lost as little as three pounds, representing the mild cases of left-sided congestive failure. Some lost as much as 39 pounds, representing the marked full-blown congestive heart failure. Such a program not only hastens the patient's recovery but is economically important in reducing hospitalization costs.

THE CUTANEOUS MANIFESTATIONS OF THE LYMPHOBLASTOMAS

IRVING D. LONDON, M. D.

Montgomery, Alabama

What comprises the lymphoblastomas?

The dictionary defines a lymphoblastoma as a tumor composed of cells of the lymphocyte series.¹ In this country, this term is accepted as a common group name for leukemia, lymphosarcoma, Hodgkin's disease, mycosis fungoides and subvarieties of these. This is based on the concept that they all have neoplastic features and they have a common characteristic cell, the lymphoblast or a derivative of this cell. That there is some relationship between these is evident from the fact that transitions from one to another have occurred.²

Although our definition is not strictly accurate, we shall include the following in the lymphoblastomas:

1. Hodgkin's disease.
2. Mycosis fungoides.
3. The leukemias.
4. Lymphosarcoma.
5. Giant follicular lymphoma.
6. Chloroma.
7. Spiegler-Fendt sarcoid.
8. Eosinophilic granuloma of the skin: the leukotic type.

What is the incidence of skin manifestations in this group of diseases?

1. Hodgkin's disease: The frequency of cutaneous involvement is reported as 16%

From the Department of Dermatology and Syphilology, Medical College of Alabama, Dr. Ray O. Noojin, Director.

1. Dorland, W. A. N.: *The American Illustrated Medical Dictionary*, W. A. Saunders Co., Phila., 20th Ed., p. 842.

2. Wile, U. J., and Stiles, F., Jr.: *Clinical Mutations in Lymphoblastomas*, J. A. M. A. 104: 533, 1929.

by Barron,³ 29% by Wallhauser,⁴ 38% by Goldman,⁵ 38% by Cole,⁶ 20-24% by Gall and Mallory,⁷ 53% by Epstein and MacEachern⁸ and 25-40% by Keim.⁹

2. Mycosis fungoides: Since this is primarily a skin disease, the incidence of skin involvement is necessarily 100%.

3. The leukemias: Epstein and MacEachern⁸ reported an incidence of 47-48% of 161 cases of various types of leukemia with cutaneous manifestations. Of these 78 cases, however, only 12 showed specific leukemic infiltration of the skin. Leavell¹⁰ found 9 specific cutaneous lesions in 128 cases of chronic lymphatic leukemia, and only 1 in 180 cases of chronic myelogenous leukemia, pointing out the rarity of specific skin lesions in the latter group. References to only 22 cases of the latter have been found in the literature.¹¹

3. Barron, M.: *Unique Features of Hodgkin's Disease*, Arch. Path. 2: 659, 1926.

4. Wallhauser, A.: *Hodgkin's Disease*, Arch. Path. 16: 522, 1936.

5. Goldman, L. B.: *Hodgkin's Disease. Analysis of 212 Cases*, J. A. M. A. 114: 1611, 1940.

6. Cole, H. N.: *Cutaneous Manifestations of Hodgkin's Disease*, J. A. M. A. 69: 341, 1917.

7. Gall, E. A., and Mallory, T. B.: *Malignant Lymphoma: Clinico-Pathologic Survey of 618 Cases*, Am. J. Path. 18: 381, 1942.

8. Epstein, E., and MacEachern, K.: *Dermatologic Considerations of Lymphoblastoma-Leukemia Group*, Arch. Int. Med. 60: 867, 1937.

9. Keim, H. L.: *Cutaneous Lymphoblastoma*, Clinics 3: 866, 1944.

10. Leavell, B. S.: *Chronic Leukemia. A Study of the Incidence and Factors Influencing the Duration of Life*, Am. J. Med. Sc. 196: 329, 1938.

11. Paul, J. T., and Limazi, L. R.: *Specific Cutaneous Lesions in Chronic Myeloid Leukemia*, Arch. Dermat. and Syph. 45: 897, 1942.

4. Lymphosarcoma: Keim⁹ believes the incidence of metastatic skin lesions to be about 5% of the cases reported, but states involvement of the mucous membranes, especially tonsillar, is often encountered. Epstein and MacEachern⁸ found 29 cases with involvement of the skin (23.7%) of 122 patients with lymphosarcoma, of which 17 cases showed specific metastatic skin nodules. Gall and Mallory⁷ report cutaneous involvement in from 17-26% of the various types of lymphosarcoma classified. Hellwig¹² reported 11 cases of skin involvement in 145 cases under this heading. Only 1 case of primary skin involvement with lymphosarcoma has been found, this being reported by Holmes and Schultz at Massachusetts General Hospital.¹³

5. Giant follicular lymphoma: Cases of so-called Brill-Symmers disease do not usually show cutaneous involvement, the lymph nodes only being involved. Gall and Mallory⁷ state that this group of patients showed no signs of pruritis, but they found 4 cases of 38 with some cutaneous involvement. Hellwig¹² reported no cutaneous involvement in his series of 9 cases. Uhlman¹⁴ reported no skin manifestations in 22 cases, 5 of which went on into Hodgkin's disease, lymphosarcoma or leukemia. On the other hand, Combes and Bluefarb¹⁵ recently reported 15 cases of giant follicular lymphadenopathy associated with cutaneous lesions, especially exfoliative dermatitis.

What are the types of cutaneous manifestations seen?

From a review of the literature, one must conclude that practically any type of skin manifestation may be seen in this group of diseases from simple erythema and urticaria to extensive exfoliative erythrodermas, ulceration and other secondary changes of the skin. It is usual, however, to attempt to classify the cutaneous lesions into two

groups: first, the so-called "toxic," non-specific or "id" lesions; and second, the specific lesions, or those showing true neoplastic infiltration.

Stokes¹⁶ presents the following as manifestations of the toxic type of eruption:

1. Pruritis, plus scratch.
2. Urticaria.
3. Papulo-bullous lesions.
4. Ecchymoses or petechiae.
5. Exfoliative dermatitis and eczematoid eruptions.
6. Herpes (zosteriform).
7. Hyperpigmentation.

Gonin¹⁷ includes the following under the manifestations of "ids": urticaria, erythema, vesiculation, petechiae, purpuric spots, and frequent involvement of the mucosa. One may add alopecia, nail changes, furunculosis, impetigo or secondary infection, and ichthyosiform atrophy¹⁸ as toxic reactions noted.

Under the specific infiltrative lesions, Stokes lists:

1. Plaques of eczematoid character, fleshy and indurated, oozing or scaly, itchy.
2. Profuse papular eruption over entire body. (Translucence may sometimes suggest vesicles.)
3. Dry, papular and plaque-like non-itching infiltrations, often with circinate contours, suggesting syphilids.
4. Universal, brawny, red bluish or brownish red infiltrations of the skin, which may be eczematous or dry.
5. Nodules and tumors which may break down and ulcerate.

One may also add herpes zoster and herpetic lesions as specific infiltration has been found in some of these cases.

SPECIFIC LESIONS ASSOCIATED WITH SPECIFIC DISEASES

1. The specific lesion usually associated with Hodgkin's disease is an exfoliative erythroderma. This was seen by Epstein and MacEachern in 8 out of 12 cases presenting skin lesions. Also seen with this disease are specific nodules or diffuse infiltrative plaques of blue-red color with a

12. Hellwig, C. A.: Malignant Lymphoma. Analysis of 202 Cases, *Am. J. Clin. Path.* 16: 564, 1946.

13. Holmes, G. W., and Schultz, M. D.: Radiation Treatment of Localized Malignant Lymphoma, *New Eng. J. Med.* 235: 789, 1946.

14. Uhlmann, E. M.: The Significance of Giant Follicular Lymphadenopathy (Brill-Symmers Disease), *Radiology* 50: 147 (Feb.) 1948.

15. Combes, F. C., and Bluefarb, S. M.: Giant Follicular Lymphadenopathy, *Arch. Dermat. and Syph.* 44: 409, 1941.

16. Stokes, J. H.: Fundamentals of Medical Dermatology, Dept. of Dermatology Book Fund, Phila., 7th Revision, 1942, p. 462.

17. Gonin, R.: Leukemids and Lymphatic Leukemias, *Dermatologica* 92: 121, 1946.

18. Glazebrook, A. J., and Tomaszewski, W.: Ichthyosiform Changes of the Skin Associated with Internal Diseases, *Arch. Dermat. and Syph.* 55: 28, 1947.

definite tendency to ulceration.¹⁹ It should be reemphasized that Hodgkin's disease most commonly presents non-specific lesions of the skin, and that the specific infiltrative lesions are rare. Kierland and Montgomery²⁰ reported finding only 3 cases with a typical histologic picture of Hodgkin's disease in 300 cases of cutaneous lymphoblastoma.

2. The leukemias: The cutaneous lesions of the myelogenous leukemias (both myeloid and monocytic) are characteristically many blue to red or skin colored shotty nodules commonly on the trunk and upper extremities, but which may be generalized. There are no characteristic lesions in lymphatic leukemia, as nodules, ulcers, plaques and exfoliative dermatitis may occur. The association of herpes zoster with chronic lymphatic leukemia has been emphasized, and usually is considered a non-specific lesion but there are several cases in the literature^{21, 22, 23} and this writer has observed one case of specific infiltration in herpes zoster associated with chronic lymphatic leukemia.

Wile and Holman²⁴ added 2 cases of generalized herpes zoster associated with lymphogenous leukemia to the 32 already reported. Katz²⁵ collected 24 cases of herpes zoster occurring in leukemia and made the important observation that the localized zoster was accompanied with or shortly followed by a generalized vesicular eruption in 50% of the cases. Catlin²³ recently reported a case of chronic lymphatic leukemia which presented herpes zoster of the 10th thoracic segment. When the herpes subsided, raised plaques remained on the skin, biopsy of which showed leukemia infiltration.

19. Sweitzer, S. E., and Winter, L. H.: Ulcerative Hodgkin's Disease and Lymph Node Imprints, *Arch. Dermat. and Syph.* 51: 229, 1945.

20. Kierland, R. R., and Montgomery, H.: Hodgkin's Disease, *Proc. Staff Meet. Mayo Clin.* 16: 124, 1941.

21. Case presented by MacKee, G. M.: Lymphatic Leukemia with Bullous Lesions, *Arch. Dermat. and Syph.* 50: 143, 1944.

22. Bafverstadt, B.: Generalized Herpes Zoster and Lymphatic Leukemia, *Acta dermato-venereal* 21: 60, 1940.

23. Catlin, C. H.: Leukemic Infiltration of Site of Herpes Zoster, *Brit. M. J.* 1: 801, 1946.

24. Wile, U. J., and Holman, H. H.: *Arch. Dermat. and Syph.* 42: 587, 1940.

25. Katz, F.: *Arch. Dermat. u. Syph.* 10: 579, 1924, quoted by Keim (9).

In a case seen but not previously reported,* a patient with chronic lymphatic leukemia developed herpes zoster of the left upper extremity, followed in about 1 month by a generalized herpetiform eruption, biopsy of which showed the lesions to have specific leukemic infiltration. This patient died as a result of his leukemia.

Chloroma is a rare form of myelogenous leukemia, mainly affecting children, in which green tumors appear internally. Very rarely, these tumors are seen on the skin. Two cases²⁶ have been reported recently at the Duke Hospital, one in a 7 year old boy with small pea-sized movable nodules on his scalp. The second was in a 33 year old male with two small nodules, one in the scalp, the other presternally.

3. Lymphosarcoma, when seen in the skin, usually occurs as metastatic nodules. The nodules may be superficial or subcutaneous and are firm, bright red to bluish. Epstein and MacEachern noted no case of exfoliative dermatitis in the 122 cases of lymphosarcoma. They consider this fact, plus the rarity of nodules in Hodgkin's disease, as an aid in the differential diagnosis of these 2 conditions.

Spiegler-Fendt sarcoid has been classified pathologically with the lymphosarcoma group. A localized and a disseminate form are identified. The former simulates Boeck's sarcoid and is probably a primary cutaneous lymphosarcoma clinically. In the disseminate form, nodules, plaques and tumors, bluish red to skin color, may occur anywhere on the skin and may involve any organs of the body.²⁷ No recent references to this disease have been found in the literature.

4. Mycosis fungoides usually begins with sharply limited eczematous lesions which are indistinguishable both clinically and histologically from ordinary dermatitis or "eczema." Itching is common. This is the so-called premycotic or first stage which lasts from several months to several years.

*Service of Dr. Ray O. Noojin, Department of Dermatology and Syphilology, Medical College of Alabama, Birmingham.

26. Goodman, E. L., and Iverson, L.: Chloroma: a Clinico-Pathologic Study of Two Cases, *Am. J. Med. Sc.* 211: 205, 1946.

27. Lewis, G. M.: Is Spiegler-Fendt Sarcoid a Clinical or Histologic Entity, *Arch. Dermat. and Syph.* 31: 67, 1935.

This original eruption may disappear either spontaneously or with the usual topical applications or superficial x-ray therapy. The second or infiltrative stage comes on with the appearance of similar eczematous patches but which now become more infiltrated and begin to spread. In this stage, the specific polymorphous infiltrate is noted histologically. The lesions may come and go. This stage may last for many years. In the final or tumor stage, the eruption becomes more generalized and large granulomas develop. The patient in time succumbs from exhaustion or intercurrent infection.

Abramowitz and Kane²⁸ present a few unusual features of mycosis fungoides which occasionally occur. First, erythematous lesions may develop in the first stage instead of eczematous. The first two stages may be absent and granulomas develop from the beginning. Finally, there have been instances reported in which another of the lymphoblastoma group developed during the course of the disease or else appeared as the final stage of mycosis fungoides. Furthermore, bullous lesions (those of herpes zoster) have been noted with mycosis fungoides.²⁹

The question now arises whether mycosis fungoides is a disease entity, or is merely the cutaneous expression of some of the lymphoblastomas. Keim believes that mycosis fungoides does not exist as an independent form of disease but represents the skin manifestation of either Hodgkin's disease, a variety of round cell sarcoma arising from connective tissue reticulum of lymph nodes or elsewhere, or lymphosarcoma originating in the lymphoid cells of the lymph nodes or other lymphoid structures. Keim also objects to retaining this grossly inaccurate name, which is retained only in dermatologic literature, for present day usage.

Are these lymphoblastomas not all one and the same disease?

Sweitzer and Winter¹⁹ state that transitions from one type of lymphoblastoma to another occur. These are frequently seen

as transitions from mycosis fungoides to Hodgkin's disease, or Hodgkin's disease to lymphosarcoma. Montgomery,²⁰ Goeckermann, Keim,⁹ Warthin and Wile and Stiles² believe that mycosis fungoides, Hodgkin's disease and lymphosarcoma are biologically, morphologically and clinically variants of the same disease.

One other question remains. This is the relationship of parapsoriasis in patches to mycosis fungoides. There have been numerous reports in the literature of cases presenting originally parapsoriasis in patches which later turned out to be mycosis fungoides. Kiel³⁰ states that this happens in such a large percentage of cases that parapsoriasis in patches is probably in most, if not all, cases the precursor of mycosis fungoides. Wile noted this in 1925 and 1926, and stated that parapsoriasis in patches would have to be taken out of the benign group and regarded as potentially serious.

Wilbert Sachs,³¹ on the other hand, stated that he did not believe in the transformation of diseases, and that either these patients had mycosis fungoides from the start or mycosis fungoides developed irrelevant of the previous dermatoses. Hamilton Montgomery is of the same opinion.

Finally, some of the eosinophilic granulomas of the skin have been included with the lymphoblastomas. Weidman³² classifies this group of granulomas into the idiopathic (or leukotic) and the symptomatic groups. Under the idiopathic type, there have been seen varying types of reticulo-endotheliosis with eosinophilia, mycosis fungoides, Hodgkin's disease and lymphosarcoma.

30. Kiel H.: Parapsoriasis en Plaques Disseminees and Incipient Mycosis Fungoides, *Arch. Dermat. and Syph.* 37: 465 and 545, 1938.

31. Sachs, W.: Comment on Abramowitz and Kane (28).

32. Weidman, F. D.: The "Eosinophilic Granulomas" of the Skin, *Arch. Dermat. and Syph.* 55: 155, 1947.

28. Abramowitz, E. W., and Kane, B.: Mycosis Fungoides. Two Unusual Types, *N. Y. State J. Med.* 45: 512, 1945.

29. Garb, J., and Wise, F.: Mycosis Fungoides with Bullous Lesions. Report of a Case, *Arch. Dermat. and Syph.* 48: 359, 1943.

Because an industrial environment is supposed to be dirty, grimy, and dusty, it has, out of ignorance, been accused of being an incubator for tuberculosis. Such thinking disregards vital components outside of the working environment of the employee, such as the economic factor, living conditions, congested housing, improper nutrition, financial insecurity with all its attendant worry, personal and community hygiene. *R. T. Johnstone, M. D., Am. Rev. Tuberc., Oct. 1948.*

CRITICAL REVIEW OF THE FENESTRATION
OPERATION

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Fenestration of the human labyrinth is not strictly a recent procedure. Otologists in Europe as far back as 1895 were experimenting with it for the cure of deafness due to ankylosis of the stapes with a good functional organ of Corti, provided the patient had excellent bone conduction of sound. The greatest barrier in the past has been the maintenance of the improved hearing obtained at first by opening the bony labyrinth. Holmgren¹ and Sourdelle² were the original pioneers in this work and their experiences are well worth reviewing.

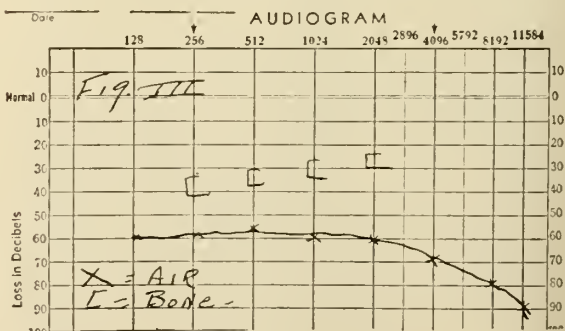
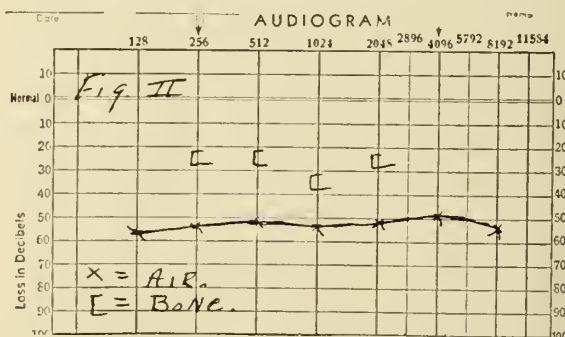
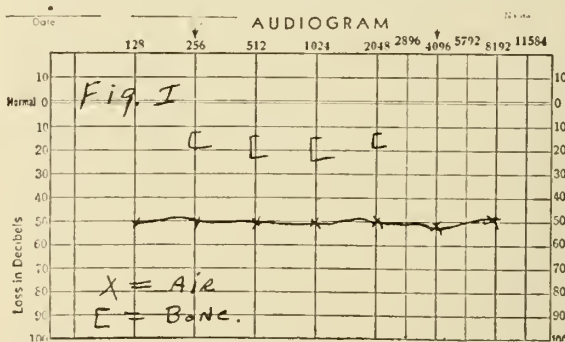
Their greatest problem, as with all others until recently, had been to maintain a permanent fistula in the labyrinth. Today, this obstacle has been overcome to a great extent. Lempert³ seems to have contributed a monumental advance in this direction by developing a one-stage operation. From time to time, added minor refinements in technique that seem to sustain the gain in hearing have been evolved. Therefore, since it is established that the hearing in clinical otosclerosis can be improved to an economic level and the fistula made to remain open, it seems logical that one should accept this new advance in otology with enthusiasm and expect permanent results in properly selected cases.

The fenestration operation for otosclerosis is now a permanent procedure in otology and need no longer be classed as experimental surgery. It is true that popular magazines were too optimistic in their reporting, and the public for awhile believed the operation a panacea for deafness.

This brings up the question: What type of patient is a candidate for this surgery? The answer, of course, is a patient in good health who has otosclerosis without secondary auditory nerve degeneration. However, this is not as simple as it sounds, as careful

screening of the candidate is necessary. The ideal risk is a young patient who has a 35 or more decibel loss in both ears equally distributed along all frequencies of the audiometer, and bone conduction above 30 decibels in the 256-512-1024 and 2048 frequencies (Fig. 1). The next best risk is the patient who has one frequency of bone conduction below 30. Patients who have two or more bone frequencies below 30 decibels are bad risks (Figs. 2 and 3).

The tuning forks are also invaluable aids in determining the operable case. If the



1. Holmgren, G.: The Surgery of Otosclerosis, Arch. Otolaryng., June '46.

2. Sourdelle, N.: New Technique in the Surgical Treatment of Progressive Deafness, Bull. New York Acad. Med., Dec. '37.

3. Lempert, J.: Fenestra Nov-Ovalis with Mobile Stopple, Arch. Otolaryng., Jan. '45.

patient hears the 64 fork by air conduction, the stapes is not fixed and the result would be a negligible improvement. When the 64 fork is not heard at maximum intensity by air, the stapes is fixed.

There should be a markedly negative Rinne with the 1024 fork at ratio of 3 to 1 to insure a good result from the operation. If there is, on the other hand, a positive Rinne with the 512 fork, the stapes is not fixed and operation is not advised. If the patient cannot hear the 2048 fork by bone, the prognosis is poor. Masking is used in all cases.

In view of the above tests it is wise not to be swayed by the importunities of the patient and family if he or she is a bad risk since only poor results will ensue.

Meticulous technique is necessary in the fenestration operation. There is probably no surgical procedure where the slightest operative error exacts such a heavy penalty. A thorough preparation is necessary before undertaking this major otologic operation.

The fenestra at the ampulla of the horizontal semicircular canal must be created with great care. The active periosteal layer must be removed around the opening as far as possible until the enchondral layer of bone is in view. Thus the fenestra is on top of a dome-shaped mound.

All bone dust and sand must be carefully removed by irrigation and suction in the making of the fenestra. A search for bone chips with the binocular loupe is essential. Leaving any of this debris is tantamount to asking for eventual closure of the opening.

The bone around the fenestra should be carefully burnished with a lead polishing burr, since recent animal experiments reveal this to act as an inhibitor to regeneration of bone. Blood should be kept out of the exposed labyrinth by careful hemostasis and irrigation to avoid inflammation. The flap must be protected during the fenestration by fine gauze in order to prevent embedding of bone chips and dust. Postoperatively, the patient should tend to keep the head in the direction of the operated side to promote drainage away from the exposed labyrinth.

What percentage of carefully selected cases operated on can be classed as successful? The top authorities in the United States claim 80 per cent and better. This is

based on the maintenance of practical unaided hearing for over two years postoperatively. It has been my experience and others that, although some cases do not remain above 30 decibels in all speech levels by audiometer, they still claim practical hearing and are pleased with the operation. In the event of a closure the hearing aid can still be worn or a revision can be undertaken.

What is the effect of the operation on nerve degeneration attendant upon otosclerosis? According to Shambaugh:⁴ "In cases followed 5 to 6 years, nerve degeneration in the operated ear has rarely been observed even when nerve degeneration had already begun at the time of operation."

Are there any serious risks involved in the operation? The answer is no. Lempert⁵ has performed over 2,000 cases without untoward results. There may be transient facial paralysis and vertigo but these soon pass away.

CONCLUSIONS

The operation is indicated in cases with stapes ankylosis and very slight secondary nerve degeneration. Suitable but not ideal are those patients with stapes ankylosis and slightly impaired cochlear function in whom hearing may be restored to the practical unaided level.

Most patients prefer what they gain from the operation to the use of a hearing aid. Even average results delight the patients and they claim better comprehension of speech than prior to fenestration surgery.

There is evidence that the fenestration operation delays or arrests nerve degeneration of otosclerosis.

With careful selection of cases and technique, the risks of the operation are nil.

If patients maintain practical hearing for two years postoperatively the results may be considered permanent.

4. Shambaugh, G.: Surg., Gynec. and Obst. 84: 828-838 (Apr.) '47.

5. Lempert, J.: Fenestra Nov-Ovalis with Mobile Stopple, Arch. Otolaryng., Jan. '45.

The efficacy of streptomycin against tuberculous infections has proved that tuberculosis is yet another disease vulnerable to chemotherapeutic attack. Without undue optimism, greater triumphs may be anticipated. Karl H. Pfuetez, M. D., and Marjorie M. Pyle, M. D., J. A. M. A., March 5, 1949.

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ARACHNIDISM

"Arachnidism, the syndrome following the bite of a black-widow spider, is a definite clinical entity in the field of general medicine. The belief that the bite of the spider *Latrodectus mactans*, present in all but seven states in America, is poisonous for man has been recognized for centuries. Before Bogen's review of the literature in 1926 there was much skepticism attached to the fact that such a small creature could, by its bite, produce terrifying generalized symptoms in man. He reported 380 cases with 17 deaths in eighteen states. It remained for Blair, in 1933, to dispel all doubt concerning the seriousness of this arachnid menace to man when he described the clinical syndrome that followed the bite of a female *L. mactans* after application of the spider to his own finger."

The above is the opening paragraph of the article recently published by Greer¹ dealing with this subject.

The Boston investigator goes on to say that it is "reported that the black-widow spider is greatly increasing in numbers and invading the large cities. These spiders are found in greater numbers in the vicinity of

human habitations, not only in outdoor privies, as was formerly believed, but also in beds, garages, automobiles and tents and even high in office buildings."

We are further told that "the cases of arachnidism reported represent but a small fraction of the actual number that have occurred; many other cases noted by personal communications are never published. The arachnid menace is more extensive than one would expect . . ."

"The potent nature of the venom is readily appreciated when one sees the victim of the black-widow spider about an hour after a bite. The victim writhes in agony, terror-stricken, and expressing fears of death. Thesing states that the venom of the female of this species is fifteen times as potent as that of a rattlesnake."

Clinically, the onset is apt to be explosive, and agonizing muscular pains and a condition of profound shock soon become obvious. The sudden abdominal pain is not infrequently mistaken for an acute surgical condition of the abdomen. There is a feeling of extreme weakness and restlessness; usually nausea, vomiting and headache are encountered.

Greer states that about sixty preparations have been used in the treatment of arachnidism. He tells us that alcohol seems to be contraindicated and fatal results have been received from its use. Sedatives, of course, are needed and morphine in heavy doses must be used promptly and often repeatedly. The author informs us that calcium salts—calcium gluconate—is a very effective method of therapy. It is given intravenously except that in children the intramuscular route may be necessary. In the series of six cases reported by the author, intravenous calcium gluconate gave immediate and prolonged relief of muscle spasm and pain in all cases and he believes that this is the best available therapy in conjunction with other supportive measures.

Originally the black-widow spider was thought to exist solely within the tropics and the lower portions of the United States. It is certainly significant when a New England investigator encounters a number of cases and especially so when he states that this spider is present or has been found in all but seven states in America. Therefore practitioners should bear this entity in mind

1. Greer, William E. R.: Arachnidism, New England J. Med. 240: 5 (Jan. 6) 1949.

and Greer is certainly upon firm ground when he concludes that "one should be familiar with the clinical picture so that proper diagnosis is made and proper therapy instituted with avoidance of unnecessary surgical operations."

GRANTS FOR HEART DISEASE RESEARCH

Life insurance companies of the United States and Canada will contribute \$680,000 during the coming year for the support of heart disease research, according to M. Albert Linton, chairman of the Life Insurance Medical Research Fund and president of the Provident Mutual Life Insurance Co. of Philadelphia, Pa. The awards raise to more than \$2,500,000 the amount contributed by the companies since the Fund was started late in 1945.

A total of \$585,300 of the funds awarded will be used as grants-in-aid by a group of 35 universities and research centers in the United States and Canada for the support of some 53 different research projects being carried on by individuals or by groups of investigators. All of this research is designed to provide basic information about the nature and causes of various forms of heart disease; some represents the continuation of work begun under the Fund's support in previous years.

In addition to the money awarded as grants-in-aid, the Fund has also announced the allocation of \$94,700 for the support of 18 graduate and 9 undergraduate research fellows who will work in the field of heart disease under the supervision of experienced investigators in medical centers in this country, in Canada, and, in the case of one award, in Zurich, Switzerland. The Zurich award is the third European fellowship set up by the Fund.

Organized late in 1945, the Life Insurance Medical Research Fund is now supported by 147 life insurance companies in the United States and Canada and to date has distributed \$2,575,000 for grants-in-aid and fellowships. Because heart disease is at once the most common of all causes of death and has traditionally received less financial support for fundamental research, the Fund has so far restricted its activities to this field and particularly to research into such conditions as high blood pressure, hardening of

the arteries, coronary disease and rheumatic fever. The Fund is one of the pioneer organizations in its field and by the end of 1948 over 260 articles had been published in professional journals on the basis of work it had supported in full or in part.

In addition to announcing its list of grants-in-aid and fellowships, the Fund has also announced the names of four new members on its professional advisory council, two new members of its Board of Directors and one new member, elected by the Medical Section of the American Life Convention.

The new members of the advisory council are Dr. Alfred Blalock of John Hopkins, Dr. Eugene B. Ferris, Jr., of the University of Cincinnati, Dr. William S. Middleton of the University of Wisconsin, and Dr. Max M. Wintrobe of the University of Utah. The advisory council, under the chairmanship of Dr. Francis G. Blake of Yale University, serves with Dr. Francis R. Dieuaide, scientific director of the Fund, and with the medical directors' representatives as professional advisors to the Fund's Board.

New members of the Board of Directors, all of them presidents of their companies, include Frazar B. Wilde of the Connecticut General Life Insurance Co. of Hartford, and Francis V. Keesling, West Coast Life Insurance Co., San Francisco. The new representative of the life insurance medical directors' society, medical director of his company, is Dr. Karl W. Anderson of Northwestern National Life Insurance Co. of Minneapolis.

SHANNON JOINS NATIONAL HEART INSTITUTE

Appointment of Doctor James A. Shannon of the Squibb Institute for Medical Research, New Brunswick, New Jersey, to the National Heart Institute as Associate Director in charge of research has been announced by Surgeon General Leonard A. Scheele of the Public Health Service, Federal Security Agency.

In addition to being charged with the direction of research activities, Doctor Shannon will personally conduct research in certain aspects of heart disease, the announcement stated. The National Heart Institute is a major unit within the National Institutes of Health, research branch of the

Public Health Service, with headquarters and laboratories at Bethesda, Maryland.

"The appointment of Doctor Shannon to work with the Heart Institute's Director, Doctor C. J. Van Slyke, is the culmination of nearly a year's search among outstanding men in leading research responsibilities throughout the nation. In order to return to the field of clinical investigation, Doctor Shannon has resigned a position of outstanding importance, that of Director of the Squibb Institute for Medical Research, which position he has held since April 1, 1946," Doctor Scheele said.

Doctor Shannon's career has been devoted to medical research, teaching, and public service. He came to Squibb from the position of Director of Research Service, Third New York University Medical Division, Goldwater Memorial Hospital, New York. He received his A. B. degree from the Holy Cross College in 1925 and his M. D. degree from New York University in 1929, also receiving his Ph. D. from the same university in 1935. Following his internship at Bellevue Hospital and a short term as instructor in the College of Medicine, New York University, he served as guest investigator at the Physiological Laboratory, the University of Cambridge, England, and as a member of the staff of the Marine Biological Laboratory at Woods Hole, Massachusetts. During the war Doctor Shannon played a prominent part in malaria research activities of the National Research Council, and was a consultant on tropical diseases to the Secretary of War. In recognition of his war-time services he received the Medal for Merit, one of the highest awards for civilian service in government.

Doctor Shannon is widely recognized in the scientific world for his original research in kidney function, chemotherapy, and malaria.

The National Heart Institute was created by Congress in 1948 to conduct a nationwide attack on diseases of the heart and circulatory system which are the leading cause of death in the United States. In addition to the Heart Institute's program of research in its own laboratories, research by medical schools, hospitals, and individual private investigators is aided through a system of financial grants, and through the award of traineeships and fellowships to outstanding

students and established research specialists.

A substantial portion of the new clinical center now under construction at the National Institutes of Health in Bethesda, Maryland, will be devoted to clinical and laboratory investigations of heart disease. Other diseases that will be studied at the center include cancer, mental disorders, and other conditions generally associated with the aging process.

SOUTHEASTERN SURGICAL CONGRESS

The Seventeenth Annual Assembly of The Southeastern Surgical Congress will be held in Biloxi, Mississippi, the Buena Vista Hotel, May 23, 24, 25, 26, 1949.

There will be forty-three papers presented by distinguished surgeons from the South and throughout the country. This is a very comprehensive program and the medical profession would do well to take advantage of this opportunity to hear these men.

SOUTH ATLANTIC ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

The South Atlantic Association of Obstetricians and Gynecologists announces the establishment of The Foundation Prize. Authors of papers on obstetrical or gynecological subjects desiring to compete for the prize may obtain information from Dr. E. D. Colvin, Secretary-Treasurer, 1259 Clifton Road, N. E., Atlanta, Ga.

INTERNATIONAL CONGRESS ON RHEUMATIC DISEASES

The current interest in arthritis and the other rheumatic diseases will receive additional impetus when several hundred physicians from the United States and foreign countries gather at the Waldorf Astoria in New York for the seventh International Congress on Rheumatic Diseases from May 30 to June 3. This Congress is sponsored and supported by several organizations including the American Rheumatism Association, the United States Public Health Service, and the Arthritis and Rheumatism Foundation, the latter being established only in 1948.

Several official delegates already have been appointed. Dr. W. S. C. Copeman of London, who will also speak at the Congress

on Thursday, June 2, on fibrositis, is the delegate from Great Britain. Dr. Fernando H. Ramos from Montevideo is the official representative from Uruguay. He will take part in the Clinic Session on "The Painful Shoulder" Friday, June 3. Dr. A. R. Moreno of Buenos Aires represents Argentina officially and will present a paper for the Sixth Plenary Session on Thursday, June 2, entitled "Possible Relations Between Rheumatic Disease and Allergy: Its Experimental Study in the Rabbit." Many other distinguished visitors from these and other countries will take part in the sessions. Physicians from the United States are also heavily represented on the program.

Following the closing of the Congress, most of the participants will go to Atlantic City for the annual session of the American Medical Association, which will have several scientific exhibits on the rheumatic diseases and several papers before various sections.

A postconvention tour will cover the sixteen days following the session of the American Medical Association. Philadelphia, Boston, Buffalo, Detroit, Chicago, Rochester (Minnesota) and Washington, D. C. will be the cities visited. Scientific sessions will be held at Philadelphia, Boston and Rochester. Sight-seeing, using motor coaches, will be included in the itinerary for those visiting Boston, Washington, Niagara Falls and Chicago.

Inquiries concerning registration, the complete program, and other aspects of the Congress can be addressed to Mr. Robert D. Potter, Executive Director, 535 Fifth Avenue, New York, New York.

CORRESPONDENCE

STATION HOSPITAL
Rapid City Air Force Base
Weaver, South Dakota

The State Health Officer
Montgomery, Alabama
Dear Sir:

I am writing to you for some information. At present I am in the Army and expect to be discharged the first part of July this year. I took and passed the Alabama State Medical Board examinations in January 1947, and intend to practice medicine in Alabama after my discharge. My long-term plans include taking postgraduate training in surgery, gynecology and obstetrics, following which I intend to become a general practitioner.

Before I begin any formal training, I would like to have a taste of what general practice is like and want to work for a month or two at that. I have several lucrative offers, but these are not exactly what I have in mind. What I would like to know from you is whether you know of any doctor who has a general practice that would like someone to work with him or for him while he takes a month or two month's vacation.

My training in the Army includes 13 months in Fitzsimons General Hospital, Denver, Colorado, where I was on the Surgical Service, and at present my capacity in this Station Hospital is that of Ward Officer for the Surgical Ward, plus doing a large share of the surgery.

If you know of any doctor who might need the type of services I have to offer and would be willing to pay well for them, I would certainly appreciate either your getting in touch with me, or having him do so.

References might be obtained from Colonel J. H. Forsee, Fitzsimons General Hospital, Denver, Colorado; Dr. Bryce Robinson, T. C. I. Hospital, Fairfield, Alabama; and Dr. John C. Bragg, Decatur, Alabama.

Thank you very much for any attention you may bring to this matter. I am looking forward to coming back to Alabama as soon as possible.

Sincerely yours,
Thomas M. Wiley
Captain, MC

Patients discharged with occasionally positive sputum experience a reactivation of their tuberculosis more frequently than those with unequivocally negative sputum. *Robert Chang, Am. Rev. Tuberc., Sept. 1948.*

Every case of tuberculous meningitis in childhood should be regarded as a pointer to a dangerous open case of respiratory tuberculosis in the immediate entourage of the sick infant; this case should at once be sought and the appropriate action taken when found. *C. O. Stallybrass, M. D., Brit. M. J., Feb. 5, 1949.*

Education of the patient is a primary function of the tuberculosis institution. One of the greatest obstacles to control of the disease will have been overcome when patients and their families thoroughly understand the facts about tuberculosis and apply what they have learned. Tremendous effort goes into the finding and treating of cases, yet all of this is wasted without the sustained cooperation of the infected individual. As "the person expelling the bacilli," he must learn of his responsibility to prevent spread; he must learn how to participate in his own treatment, for in the best medical opinion much of the success of the cure is up to the patient. His education should continue until an economically competent and self-disciplined individual has returned to his community and himself become an active participant in tuberculosis control. *A. Edith Fenton, R. N., Canad. J. Pub. Health, May 1948.*

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

THEY SAY

W. A. Dozier, Jr.
Director of Public Relations

Part of the work of a public relations group is to report to the parent body what seem to be the feelings of the public toward that parent body, in this case the medical profession in Alabama. This is by no means the easiest job which has to be done; however, it is a very important one.

When rumors are going around, the tale bearer usually begins with "they say." Quite often discerning people discount what follows because the opening statement lends no credence to what is said. Discerning people are in the minority, however, and even they are prone to accept at least part of the story if it be repeated often enough. Before long there is a feeling that some truth must be in the tale if so many people are telling it.

We also find ourselves in the position of having to take into consideration every feeling or emotion, whether well founded or not. So long as an adverse opinion is held, that opinion must be considered as something to be dealt with as quickly as possible. Naturally the quieting of a false rumor requires a different treatment from that given to a legitimate complaint, but very often it is well nigh impossible to establish the truth or falsity of a story.

At the annual session of the Association last month, two of the most constant complaints were reported to the group. This article will deal with one of those—the cost of medical care. No matter where you go and no matter with whom you talk, the first thing mentioned is the cost of the service rendered by all people connected with the field of health. Each person has his own story to relate, but they all boil down to one thing—"I was gouged."

What can one do when confronted with such a situation? You cannot ignore it or turn your back and walk away. And you certainly cannot call the person a liar. Figures can be quoted showing that the rise in

the cost of medical care has not been commensurate with the rise in the cost of living, but such a statement falls on deaf ears. Also the fact that your investment in time and money is large, due to a long education and expensive equipment, is of no importance to a person who feels that he has been unduly charged. Basically, an emotion cannot be successfully met with logic. Still the situation must be faced.

It is not the purpose of this article to say, "Here is the answer." There probably is no one answer. The problem, like all emotional ones, is a many-sided affair that must be answered in equally as many ways. It is a problem that must be faced by the Association, the County Medical Societies and the individual physician; and it will require much time, thought, and action before even a beginning is properly made. Education, voluntary health insurance, and a free interchange of ideas between the public and the profession will undoubtedly be necessary steps. But in many instances the problem will resolve itself into only a final understanding between the individual physician and the patient.

This cost factor, then, is recommended to you as a problem for even more intense thought, discussion, and action by each member, each Society, and the State Association.

We are well aware of the penalties of delay in diagnosing tuberculosis. Undiscovered, the disease progresses, often to the point of hopeless intractability; unchecked, it spreads freely; and unrecognized, it breeds new cases. If we are to succeed in controlling tuberculosis, this is exactly what must not continue to occur. *Francis J. Weber, M. D., Pub. Health Rep., Oct. 1, 1948.*

Estimation of the therapeutic effect of any drug on such a disease as human tuberculosis is extremely difficult. This is especially true in view of the chronicity of most forms of the disease and the known favorable response of the disease to proper diet, collapse therapy and rest in the absence of any treatment with drugs. *Archie H. Baggenstoss, M. D., et al. Am. Rev. Tuberc., Jan. 1947.*

TRANSACTIONS OF THE ASSOCIATION

1949 SESSION

PART I

TRANSACTIONS OF THE ANNUAL SESSION OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA HELD AT MONT- GOMERY, APRIL 19, 20, 21, 1949.

First Day, Tuesday, April 19

The Medical Association of the State of Alabama convened in annual session in the Blue and Gray Room of the Whitley Hotel, Montgomery, and was called to order at 9:00 A. M. by the President, Dr. J. Paul Jones of Camden.

Invocation was offered by Dr. D. M. Rivers, Pastor of the First Baptist Church of Montgomery.

Addresses of welcome were delivered by Hon. John L. Goodwyn, Mayor of Montgomery, and Dr. Francis M. Thigpen, President of the Montgomery County Medical Society, host to the Association.

Reports of committees were called for by President Jones and they were rendered as follows, being referred to the State Board of Censors after they had been read.

REPORTS OF COMMITTEES

Mental Hygiene

Last September the State Department of Health created a Division of Mental Health. This was possible through funds made available by the National Mental Health Act. Dr. Jack R. Jarvis is the director of this activity, has offices at the Medical Center in the Public Health Building, and conducts an out-patient psychiatric clinic in connection with the Hillman Clinic and Medical College of Alabama.

At long last we have made a start sought by those interested in mental health matters.

Dr. Jarvis and his co-workers not only assume diagnostic and treatment responsibilities on an out-patient psychiatric basis, but seek to promote mental health throughout Alabama by means of a program dealing with education and propaganda.

Since assuming office last September his activities have been many and varied. Some of the fruits of his efforts will be immediate, others will be vague and on a long term basis.

At the Medical Center, in the Jefferson-Hillman Hospital, one wing has been converted into a psychiatric service for paying in-patients.

During its first year of operation there were 514 patients admitted: 142 males and 372 females. These included 107 psychoneuroses; 147 mood disorders; 76 patients with involutional disorders, and 18 psychosomatic disorders. Thus Alabama is one of the few states, and Jefferson-Hillman one of the few general hospitals in this country, providing psychiatric services. Of this we may be proud.

Members of this committee and faculty members of the Medical College of Alabama, as well as staff officers of the Alabama State Hospitals for Mental Diseases continue to render service to the people of Alabama; not only through ministering to the psychiatrically ill but also through talks to community groups on the mental health needs of Alabama, and the possible means and methods of attaining these.

The State Health Officer, Dr. D. G. Gill, has been helpful, cooperative, and most gracious in working with those of us who have sought his aid and advice. Without his vision and practical enthusiasm many of these projects could not have been started. Dean Kracke of the Medical College has likewise given his time and support in helping promote psychiatry in the medical curriculum and in the Medical Center.

With a colossal job to be done we feel that we have made only a very small contribution toward mental health in Alabama. We solicit your co-operation and your tolerance.

J. S. Tarwater
E. S. Sledge
Frank A. Kay
Chairman

Industrial Medicine

The Committee on Industrial Medicine has continued at work towards revision of the Workmen's Compensation Act, particularly with reference to the amounts allotted for hospitalization and medical care.

We have received comparative schedules from other states and find that ours is quite insufficient.

Some attempts are also being made towards the training of ambulance personnel in the handling and care of the injured.

H. Earle Conwell
Marcus Skinner
Benjamin Meyer
Chairman

Maternal and Child Health

(An abstract. The complete report will be published later.)

Your committee has been active.

We have continued our county by county study of maternal mortality and the causes of it. This

year we have a detailed report for the years 1944 through 1947. We have also conducted a hospital survey of all registered institutions in Alabama that accept maternity patients. The results of these two study projects, and they are interesting for many reasons, are now on display in the Scientific Exhibits. We hope that interested physicians and hospital authorities will thus get a true picture of just what is happening in our state regarding maternity.

In the interest of better maternity care, we have furnished speakers for medical meetings here in Alabama and for a few in adjoining states.

Birth certificates now record additional data of importance.

The state maternal death rate for 1948 was slightly higher than for 1947, lowest on record here in Alabama. Principal causes of such deaths were toxemia, infection and hemorrhage, in that order. With adequate maternity care, this order is incorrect.

Although maternal mortality in Alabama has steadily declined, it is quite apparent that major deficiencies in maternity care in some of our counties will never be solved by present methods. This adequate maternity care is of vital concern to the American public and to the proponents of socialized medicine. This committee regards such care as a community, county, and state problem that will need both local and federal interest and aid for any real solution.

Each Alabama county should long ago have had in operation at least one organized antenatal clinic for indigents. The indifference of some of our County Medical Societies and of some of our hospitals needs explanation and correction. Actual opposition has been encountered in some instances.

The standards of obstetric practice in some of our Alabama hospitals are not satisfactory by any yardstick. This committee feels that our recent hospital survey calls for our endorsement of any reasonable plan for state inspection and licensure of Alabama hospitals and clinics if the administration of such a plan is by, or approved by, the State Board of Censors.

The real shortage of white and Negro physicians in many of our counties is an old story but one especially true for those counties with large Negro populations. The few white physicians in such counties cannot be expected to care for the many home confinements of indigent Negroes and the economic status of the Negro affords little or no support for a Negro physician in private practice. Ignorant and "folklore" Negro midwifery is the result and with the expected death rates. Partial payment to white physicians for services to such indigents or full subsidy or salary to one or more Negro physicians for services to such Negro indigents seems the only logical solution and will probably eventually come in some form or other. Our system of medical practice should initiate such an effort and not wait for socialized medicine to try to do it.

The new regional system of higher education for Negroes here in the South could possibly

be used to advantage in some provision of at least temporary professional Negro care in counties where such care of Negroes is indicated. Tennessee has long done this with selected white graduates.

Counties most in need of some assistance in any solution of their problem of Negro maternity care are Greene, Lowndes, Perry, Marengo and Wilcox. We have been attempting to make some sort of start in Lowndes. Approval of some such plan to provide Negro professional care for Negro indigents was obtained from that County Medical Society. Funds for establishment and maintenance of such a plan have been and are being sought. Local interest and local financial support, even though of limited degree, seem a necessary prerequisite. The health bill now being co-sponsored by our Senator Hill would probably help out a lot with such efforts. Any such program instituted would probably be administered by our State Health Officer and for certain would be conditioned on approval of and cooperation by the medical society of the county concerned.

Some of our counties with high maternal mortality rates do not have major Negro problems and deserve better obstetrics by white physicians.

We make no formal recommendations this year but we are convinced that unless some new efforts, perhaps revolutionary by past standards, are made for provision of adequate maternity care of indigents of any race by our present day system of medical practice, some other system may soon try to provide such care. If 95% of Alabama physicians are not in favor of socialized medicine of the Truman variety, then 95% of Alabama physicians should favor early corrective action on the maternity care problems of our state.

T. M. Boulware
Chairman
A. E. Thomas
Hughes Kennedy

Anesthesiology

Your Committee on Anesthesiology feels that definite progress has been made during the past year. This is especially true since available residencies in hospitals in Alabama are filled and the training programs are proceeding satisfactorily.

The committee continues to avail itself of opportunities to take part in seminars, hospital staff and county medical meetings. Also, it is our desire to cooperate in every way possible with hospitals and the American Medical Association in attaining the aims expressed in the recently adopted requirements as regards anesthesiology dealing with "Essentials of a Registered Hospital" which states as follows:

"The anesthesia service should be under the direction of competent medical personnel. The anesthesiologist should hold the degree of doctor of medicine from an acceptable medical school and should have qualifications in anesthesiology

acceptable to the Council. If an anesthesiologist is not available, supervision of the service may be assigned to a staff physician who has had special training in this field. Nurse anesthetists, when properly qualified, may participate in the administration of anesthesia."

This committee desires to call to the attention of the medical profession of Alabama that, in addition to Residencies in Anesthesiology at the Employees' Hospital, Fairfield, and Medical College of Alabama, Birmingham, there are available short term and individualized courses in anesthesiology. Especially would we like to enlist part-time physician anesthetists, but also, in addition, any physician interested in this field in any way is welcome to avail themselves of the course. The course or demonstrations held at the above named places can be arranged for one day, one week, or one month. In other words, the physician can write his own ticket. No cost is charged for these courses and demonstrations. Also, this committee holds itself ready for consultation via letter or telephone to deal with problems incident to the clinical conduct of an anesthetic problem.

Finally, the committee is attempting to attract additional full-time qualified anesthesiologists to locate in Alabama as localities for such practice of medicine become available.

E. B. Robinson, Jr.
Chairman
Alice McNeal
Sid W. Collier

Postgraduate Study

The second annual Mobile seminar, sponsored by the Association through its committee, under direction of the Medical College of Alabama with the cooperation of the Mobile County Medical Society, was held in the ballroom of the Admiral Semmes Hotel, January 20-21, 1949.

Twenty-three interesting and diversified subjects in practically every field of medicine were presented by members of the faculty of the Medical College of Alabama.

Dr. James R. Garber, Chairman, Postgraduate Seminar Committee, Medical College of Alabama, called the meeting to order; followed by a welcome from Dr. J. U. Reaves, President, Mobile County Medical Society; with remarks by Dr. J. P. Jones, President of the Association, and Dr. Roy Kracke, Dean of the Medical College of Alabama.

Presiding officers at the sessions were Drs. Norborne R. Clarke, William R. Meeker, Andrew D. Henderson and Arthur A. Wood of Mobile; Dr. J. Paul Jones, Camden; and Dr. Roy R. Kracke, Birmingham.

The average attendance was below expectation, which, however, was compensated for through the interest of those present.

The Mobile County Medical Society held a complimentary dinner meeting for those participating in the program, following which Dr. Marye Y. Dabney of Birmingham spoke on Transperitoneal Approach to Vesicovaginal Fistula Repair.

In its report at the annual meeting, April 14, 1947, the committee made the following recommendation: "That thought of other forms of extension teaching be deferred until the seminar at Mobile has been tried and/or until such time as the Medical College and its faculty can enter into a broader program, if such is deemed desirable." In this, the Board of Censors concurred, and through whose appropriation of \$1000.00 annually, for three years, these seminars were made possible.

The committee believes the time is now at hand when a broader and more far-reaching program of postgraduate study should be offered, so distributed as to be available to more physicians in the state, especially in the less populated areas.

Accordingly, a meeting of the committee with various interested and cooperating agencies was held at the Medical College in Birmingham, April 11, at which the following were present: Dr. James R. Garber, Chairman, Postgraduate Seminar Committee, Medical College of Alabama; Dr. Douglas L. Cannon, Secretary-Treasurer, Medical Association of the State of Alabama; Dr. J. R. Morton, Extension Division, University of Alabama; and Dr. Ralph McBurney, Chairman, Committee on Postgraduate Study, Medical Association of Alabama. All agencies represented were unanimously in favor of expansion during 1949-50. The Medical College, provided suitable funds are made available, is now in position to enter with the Association into this broader program of postgraduate medical study. Therefore, the following was proposed:

In order to avoid competing with the activities of the respective divisions of the State Medical Association or with the Vice-President of each division, it is suggested that the terms, "Postgraduate Assembly Group I, Group II, etc.," be used. By such a designation, groups of counties can be utilized for postgraduate work independent of the district or division in which they may be classified by the State Association.

It will be the objective of the State Medical Association, through its Committee on Postgraduate Study, to initiate, stimulate, promote, and arrange postgraduate courses and lectures. This committee should utilize any other agency of the University for this purpose, especially the Extension Division. The Medical College of Alabama will not participate in this function. The function of the Medical College will be solely to furnish clinicians and scientific programs.

Expenses for travel and an honorarium per tour or per session for clinicians participating in postgraduate work shall be arranged by the Association's Committee on Postgraduate Study.

It is obvious that County Medical Societies composed of few members will have difficulty in arranging programs among their own membership and to send a speaker to such society will be impractical for the Medical College. All such societies should, therefore, join with similar county societies and arrange for combined postgraduate meetings.

The Vice-Presidents of the divisions of the State Medical Association should continue to hold their division meetings, but it is suggested that faculty members of the Medical College assigned to postgraduate groups should not participate in such programs. This will afford an opportunity for other faculty members to do some lecture work.

That a registration fee of \$2.00 be adopted for each member attending a session.

In view of existing possibilities for immediate expansion into a broader program of postgraduate study, the committee recommends that:

In order to present such program of postgraduate study, the Mobile seminars, as such, be discontinued.

That the above proposals be approved.

That the amendment of that part of Section 1 of the Ordinance of Miscellaneous Appropriations be further amended to read:

That for the purpose of financing the proposed program, a total annual sum not to exceed \$3,000.00 for a period of three years be appropriated as follows:

\$1,500.00 from the State Medical Association.

\$1,500.00 from the State Board of Health.

That the annual total sum be turned over to the Business Office of the Medical College of Alabama for meeting expenses of these programs as they occur.

That an annual accounting of such expenditures be made by the Medical College through its Business Manager to the State Medical Association, through the Chairman of the Committee on Postgraduate Study.

That any unused balance at the end of each fiscal year, April 15, accrue to build a reserve for further expansion of the program.

That if, during or at the end of the three-year period, it may become necessary to discontinue the proposed program of postgraduate study, any accumulated balance which has resulted from this appropriation be duly and equally returned to the appropriating agencies.

Ralph McBurney

Chairman

Cabot Lull

Grady Segrest

Cancer Control

The Cancer Control Committee in this annual report desires to emphasize, in retrospect and anticipation of the future, four phases in the program to control cancer in Alabama.

The first phase began with the creation of this committee in 1933. Very little progress was made until the organization of the Alabama Division of the American Cancer Society a few years later. Through its efforts, we have had our only state-wide educational campaign against cancer, and its work has increased in effectiveness and results each year thereafter. For the present cancer consciousness of the citizens of the state, full credit and praise should be given to the enthusiastic, energetic and intelligent leadership of

the Alabama Division of the American Cancer Society. The members of the State Medical Association should accept this as a challenge and a stimulus to greater activity in interest and effort in developing a more effective cancer control program in Alabama.

The second phase was ushered in when the State Legislature, in 1943, made an appropriation for cancer work. This marked the beginning of actual service to indigent cancer patients, and the work has gone forward in a fairly satisfactory manner. The report of the State Health Officer will no doubt contain a full review of the results achieved in the administration of this appropriation. It is regretted however, that on account of insufficient funds, the program has been greatly curtailed this year, and as a result there has been some public criticism for not accepting all indigent patients who made application for treatment. This has publicly emphasized the urgent need for increased state appropriations.

The third phase is in the offing, and may be realized if the State Medical Association will approve the plan for legislative authority to set up a state-wide program of cancer detection similar to that operating in tuberculosis and venereal disease control. Such a program will enable Alabama to pioneer the entrance into another serious public health problem, namely the conquest of cancer. Under the direction of the State Board of Health, assisted by the medical profession, there can be a screening process of early detection of cancer of the skin, breast, uterus and rectum through state-wide voluntary examinations. A bill providing funds and the mechanics for such a cancer detection program is contemplated for the summer session of the State Legislature. The cancer committee has approved such a plan, although there was some difference of opinion as to how it should function.

The fourth phase must await the establishment of a separate Cancer Control Division in the State Department of Health, adequately staffed and financed. No real progress in cancer control in Alabama can be envisioned until the problem of cancer can be studied, analyzed and the physicians alerted to the early recognition of the disease. At the present time, the State Department of Health is primarily concerned with the mechanics of directing applicants to clinics for treatment, and it is doing this job well, but the major problems of cancer control are not being dealt with. We need a Director of Cancer Control who could approach the problems from all angles, and could co-ordinate the professional interests, as well as work out a program adequate to our needs.

The Alabama Association of Pathologists is to be commended for organizing a Tumor Registry, made possible with the financial assistance of the Alabama Division of the American Cancer Society, which is a very progressive step in the study and control of cancer in our state. Attention is called to the fact that, of the several clinics treating state-aid patients, only two have

been "certified," and it is urged that the others qualify according to the standards of the American College of Surgeons in order to have all of them recognized by the national medical societies as cancer treatment clinics. Our state is considerably behind in the question of cancer detection clinics. We are delighted to report that there are now two recognized cancer detection centers in Alabama, but we need them in all the larger cities as soon as possible.

In order to promote a better cancer control program in our State Medical Association, this committee makes the following suggestions: First, that April be recognized in the Association as the "Annual Cancer Emphasis Month," coinciding with the national program of education and appeal for funds to be used in service and cancer research. The April issue of the State Medical Journal could appropriately be devoted to cancer. It could review the state program and present data as to the accomplishments through the clinics. It could contain special contributions on the problems of cancer.

Second, that continued effort be made to create a separate Bureau of Cancer Control in the State Department of Health, with a full-time director.

Third, that approval be given to the plan for a state-wide detection program under the direction of the State Board of Health as provided in a bill sponsored by one of our public health minded lawmakers, and soon to be presented to the State Legislature. The bill cannot be read at this time but copies have been sent to the members of the Board of Censors.

Fourth, that our Medical Association lend its influence in helping to secure adequate legislative appropriation for the state cancer treatment program, asking for a minimum of \$150,000.00 annually for the next two years.

Fifth, that the Association express its appreciation for the valuable service in cancer education, and the generous contributions made to various cancer research projects in our state, by the Alabama Division of the American Cancer Society. Especially should we pay tribute to Mrs. Lillian G. Meade, the State Commander, for her untiring efforts, leadership and judgment displayed in projecting this work, for, in full cooperation with the medical profession, Mrs. Meade has rendered a real public service in educating against cancer.

REPORT, ALABAMA DIVISION
AMERICAN CANCER SOCIETY
MRS. LILLIAN G. MEADE
STATE COMMANDER

The American Cancer Society, Alabama Division, and its Field Army can report continued progress during the past year in the field of education, and in additional support of research projects. Its educational program has been carried on through the radio, newspapers, magazines, outdoor advertising posters, street car and bus cards, distribution of literature, school programs and innumerable talks. We believe that this has resulted in a greater interest in cancer control by the lay public.

The Alabama Division has expanded its facilities during the past year. You will remember we began in 1942 with total assets of \$792.00. Our 1948 campaign was again successful, as with a quota of \$137,500 we raised \$154,000. We believe that this shows the confidence the public has placed in the American Cancer Society.

We have continued our twelve-month educational program, but have expanded facilities for furnishing transportation for indigent cancer patients to the State-Aid Clinics. We have spent over \$5,000 for this facility, as well as for medicine for indigent cancer patients, and furnished bandages and dressings directly to indigent cancer patients whenever called upon to do so in each county in the state.

I would call your attention to the fact that, while we have paid bills for medicine for indigent cancer patients, we are very careful to have the bills signed by the doctor giving the prescription before they are okehed for payment by me.

April, as you know, is Cancer Control Month, so designated by a Special Act of Congress. At that time we do ask the general public—and that includes you—to support the American Cancer Society's drive for funds. This year we are asking for \$140,000, and I am sure that there is not an individual who would not feel it a privilege to contribute to this worthwhile cause. Fund-raising is necessary only in so far as it enables us to conduct the program we have laid out for Alabama.

In each county we have what we call a Public Information Committee made up of representatives of the press, radio, men's and women's organizations, rural groups, schools, etc. This year we are giving especial attention to rural groups, because a survey made for the American Cancer Society by the University of Michigan shows that rural people were less aware of facts about cancer than any other group in the United States.

We have had splendid cooperation from Mr. P. O. Davis, who is the Director of Extension Service, Alabama Polytechnic Institute. Through him we have furnished County Agents and Home Demonstration Agents with over 50,000 copies of material designed particularly for rural groups.

The American Cancer Society is carrying on an extensive research program in Alabama, in fact the most extensive in the Southeast. As you know, 25c out of every dollar raised for the American Cancer Society is allocated to research. There are no administration costs, no expenses out of that 25c—the whole 25c goes to the national office from every county, every state, every Division for a national research program. The American Cancer Society does not do cancer research but merely acts as the agent for collecting funds, and through its Committee on Growth, which is made up of distinguished doctors and scientists, it is able to allocate funds for research to worthwhile institutions and individuals.

At the present time there is being spent in Alabama \$135,000 on research projects. For the Highland Baptist Hospital, under the direction of

Dr. Albert Casey, we are spending \$7,087.00; to Southern Research Institute there have been two grants, \$28,172.00 and \$12,000. Alabama Polytechnic Institute is the recipient of a \$19,000 grant this past year for work being carried on by Dr. W. S. Salmon.

This money comes from the 25c sent to the national office. In addition, in Alabama we have other research projects going on. The Alabama Division contributed \$35,000 to the Medical College of Alabama to help set up its research project, with which I am sure you are familiar. It also appropriated \$34,000 for a five-year project of the Alabama Pathologists' Association to set up a Tumor Registry. These last two grants were made over and above the regular grants made to the state.

We are very proud of this research program being carried on in our state, but can only continue it if we have a successful campaign for funds. I would call your attention to the fact that with \$137,500 as a quota we received and are spending on research in Alabama \$135,000. So you see you get a lot more back from the American Cancer Society than we have been able to contribute.

During the past year the State Commander has traveled some twenty-five thousand miles by car, train, bus and plane. I have attended one hundred forty-two meetings to represent the American Cancer Society, and have made one hundred and three talks for approximately thirty minutes each to men's and women's groups over the state. Literally thousands of talks have been given by our doctors and Field Army personnel in addition to this. I know that there are many civic clubs that I have not had an opportunity to talk with about this program. You can be of real help if you will arrange a program on cancer control in the civic club to which you belong and ask me—or someone of our staff—to talk about the American Cancer Society's program in Alabama.

We are very happy to report that Alabama has an organized unit in every one of the sixty-seven counties. We are very proud of the fact that we are not just a women's organization, as we were originally, but now a working organization of men and women devoted to the control of cancer. During the past year we have had six district meetings in strategic points over the state, and one annual meeting held in Montgomery.

The Alabama Division is most fortunate in having as its State Campaign Chairman this year Mr. Paul Scherf, Vice-President of Alabama Textile Corp. It is due to the fine spirit of cooperation of splendid individuals that the American Cancer Society, Alabama Division, has been able to make progress.

Our State Treasurer continues to be Fred A. Duran, Vice-President, Union Bank & Trust Company, Montgomery. His secretary keeps our books, as the State Commander handles no funds. Our books are audited as of September 1st by Mr. W. T. Griffin, Certified Public Accountant, Montgomery.

I would call your attention to the fact that National Pharmacy Week is being devoted to cancer control, free window displays having been supplied to all pharmacies in the state requesting them.

The unique feature of our fund-raising campaign this year will be Coffee Day. This idea originated in Mississippi. Last year they raised \$17,000 in one day on Coffee Day. So, on Friday, April the 29th, invite your friends out to have a cup of coffee in the morning and again in the afternoon, and make your contribution to the American Cancer Society over and above what you have already contributed? The restaurant will give the coffee, cream, the sugar and the service—you can pay what you want for your cup of coffee, and the proceeds will go to the American Cancer Society, Alabama Division.

We've had splendid cooperation from the Coca-Cola Bottling Company, who distributed and collected coin cans for us during our campaign. We have contacted industrial firms and they are becoming more cancer conscious as time goes on.

Posters on bulletin boards for industrial firms have far exceeded our expectations. We have sent out mail enclosures through department stores, laundries, pharmacies, and business firms, calling attention to the seven danger signals of cancer.

You will recall that in my report in 1946 I mentioned that the main project of the Worthy Grand Matron of the Order of the Eastern Star for that year was cancer control. Fifteen thousand dollars was contributed to the Alabama Division for a Mobile Cancer Diagnostic Unit. I hope that this unit will be set up soon, as the time seems right—and the funds are available.

It should be noted here that the work of the American Cancer Society is always under the supervision of the State Medical Association, and we in Alabama are especially cognizant of our responsibility in working with the Association and the State Health Department. We feel very strongly that a very much better program in cancer control would result if a Director of Cancer Control was employed by the State Health Department. In those states where a Director of Cancer Control is employed a much better program for the people of the state is the result.

I want to urge your support of a Cancer Seminar this fall. Alabama is far behind other states in providing a Cancer Seminar for its doctors. The American Cancer Society stands ready to do its part, but as you well know the impetus must come from the medical profession.

To all of the doctors of the state with whom I have had the pleasure of working, especially the members of the Executive Committee, I want to express my sincere appreciation. If I have had a part in making the people of Alabama more cancer conscious and more alert I am rewarded for the work I have tried to do. The American Cancer Society, Alabama Division, and its Field Army continue to educate our citizens to the fact that early cancer is, in most instances, curable. We realize in doing so we are placing a great

responsibility on the medical profession. We know that fewer doctors are patting their patients on the back and saying "go home and don't be worried." They are pleased to see them come in, even when they do not have symptoms. We know we can count on your full cooperation.

J. P. Chapman
Chairman

F. H. Craddock, Jr.
J. D. Peake
John L. Branch
R. D. Baker

Tuberculosis

This is your new committee, appointed by President Paul Jones immediately following the annual session of 1948. The committee was created for the specific purpose of presenting to the Association at its 1949 meeting the work that is being done in Alabama on tuberculosis control and make recommendations for the continued improvement of such services.

Tuberculosis is still a problem and is a major cause of death in our state, although provisional statistics, based upon preliminary tabulations, indicate a lowering of the mortality rate from 37.0 in 1947 to 32.7 for the year of 1948. The importance of this disease as a killer is well borne out by figures which reveal that there were 757 deaths attributed to tuberculosis during the first 9 months of 1948 as compared with 647 deaths for all other contagious diseases combined for the same period.

The provisional rate of 32.7 will, in all probability, be higher when the final tabulations are made around the middle of the year since it was based upon recorded deaths for the calendar year 1948. Final tabulations are computed on a residence basis and include deaths occurring outside of Alabama of persons who normally reside in the state.

There has been a gradual decline in the number of deaths attributed to tuberculosis from 1,481

Table I

The Ten Major Causes of Death in Alabama, 1948,
With Rates Per 100,000 Population

	1948		1947		Average 1943-1947	
	No.	Rate	No.	Rate	No.	Rate
Diseases of heart	6,410	208.9	5,983	197.2	5,342	180.5
Intracranial lesions	2,669	87.0	2,645	87.2	2,421	81.8
Cancer, all forms	2,582	84.2	2,342	77.2	2,148	72.6
Nephritis, all forms	1,998	65.1	1,957	64.5	2,051	69.3
Accidents, all types	1,925	62.7	1,879	61.9	1,900	64.2
Pneumonia, all forms	1,179	38.4	1,188	39.2	1,320	44.6
Premature birth	1,062	34.6	1,026	33.8	924	31.2
Tuberculosis, all forms	1,003	32.7	1,123	37.0	1,189	40.2
Homicide	458	14.9	475	15.7	377	12.7
Diabetes mellitus	412	13.4	361	11.9	349	11.8

in 1941 to 1,003 in 1948. Tuberculosis still occupies 8th place in the major causes of death in Alabama despite the fact that it is preventable and curable. This latter fact is something that should disturb all of us and indicates the need for accelerated action.

ALABAMA TRUDEAU SOCIETY

At the annual meeting of the Alabama Tuberculosis Association in June of 1948 at Birmingham, Alabama, a group of physicians banded together and petitioned the American Trudeau Society for an Alabama chapter. This request was received with favor by the national organization at its next meeting and a charter granted. This Society was organized for the purpose of interesting more physicians in the state in diseases of the chest, especially tuberculosis. Two meetings have been held with excellent attendance and Dr. Stuart Willis of North Carolina gave a most interesting paper on the value of antibiotics in the treatment of tuberculosis at the last meeting. The next meeting will be held some time in June when another outstanding speaker will be brought to Alabama for the program.

STATE SUBSIDY PLAN

Tuberculosis hospitalization received a severe jolt in January of 1949 when the state subsidy was cut 30 cents per day per patient because of insufficient funds in the state appropriation. This represented a decrease from \$1.50 to \$1.20 per diem and must be restored in order to prevent a critical crippling effect on the various sanatoriums scattered over the state. This crisis is far reaching when one considers that the institutions are already operating on a per diem cost of approximately \$3.50 per patient.

SANATORIUM BEDS

Alabama now has somewhere in the neighborhood of 575 beds in eight tuberculosis sanatoriums scattered over the state. These eight are located in Birmingham, Decatur, Montgomery, Mobile, Gadsden, Anniston, Lafayette and Scottsboro. About half of the beds are in Birmingham and Decatur.

According to minimum standards and the U. S. average, Alabama should have two beds per annual death, and at the present time we have only a half bed per annual death. Recent studies indicate that for every annual death there are ten cases of tuberculosis, two of whom need immediate sanatorium care.

We need at least 1,500 beds to control tuberculosis in Alabama and these still will not meet the minimum standard of two beds for every annual death. (We had 1,003 deaths in Alabama in 1948—minimum standard equals 2,006 beds.) However, with careful planning under our present system of hospitalization, we feel that the job can be adequately accomplished with 1,500 beds.

The accompanying Chart 1 reveals how we stand in relation to our neighboring states. North and South Carolina are at the top with

17 beds per 10 annual deaths—Alabama at the bottom with 5 beds per 10 annual deaths.

Chart 1

Sanatorium beds for
every 10 deaths from TB - 1947

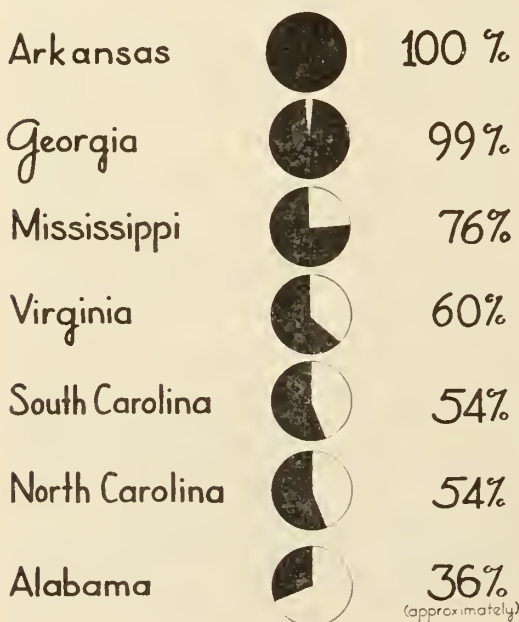
North Carolina	aaaaa	aaaaa	aaaaa	aa
South Carolina	aaaaa	aaaaa	aaaaa	aa
Georgia	aaaaa	aaaaa	aaaaa	
Florida	aaaaa	aaaaa	aa	
Louisiana	aaaaa	aaaaa		
Virginia	aaaaa	aaaaa		
Arkansas	aaaaa	aaaaa		
Mississippi	aaaaa	aa		
Alabama	aaaaa			

STATE PARTICIPATION IN TUBERCULOSIS HOSPITALIZATION

Alabama is spending approximately \$800,000 annually on the maintenance of the 575 beds and the hospitalization of that number of patients. About one-third of this comes from the State treasury and the remainder from other sources, such as city and county governments, tuberculosis associations, welfare departments, etc. The accompanying Chart 2 again reveals that we are on the bottom in state participation in relation to our neighboring states.

Chart 2

Percentage of total costs
of public TB sanatoria
borne by state governments
(estimated)



SURGICAL SERVICE FOR DISEASES OF THE CHEST

At one time there was considerable talk of establishing a Section for Surgical Diseases of the Chest at the Jefferson Hospital in Birmingham in connection with the U. of A. Medical School. It is deeply regrettable that this effort failed to materialize as we are in great need of an excellent surgical service for diseases of the chest. We have two well-trained men in the state who are keenly interested in that field and are well qualified to inaugurate such a set-up.

The newer concepts of lobectomy and pneumonectomy in the surgical treatment of pulmonary tuberculosis create a demand for these facilities which are not now available in the state. These procedures, with the old time honored procedures of thoracoplasty, extrapleural pneumothorax, pneumonolysis, etc., should be made available to tuberculosis patients of the state without delay when indicated.

RESEARCH IN TUBERCULOSIS

At the present time the committee is unaware of any research projects in the field of tuberculosis in the state of Alabama. It is respectfully suggested that the State Board of Health investigate the possibilities of such a project and then seek funds from various organizations, such as the U. S. Public Health Service, Rockefeller Foundation, etc., to carry on such studies. It could well be a part of the U. of A. Medical School program.

TUBERCULOSIS DIVISION, ALABAMA STATE BOARD OF HEALTH

Tuberculosis control activities of the Diagnostic Clinic were expanded in 1948 and the results of this expansion were reflected in an increase in the number of individuals x-rayed but not in the number of new cases found. Persons numbering 72,736 were x-rayed in 1947 and 195,244 in 1948. There were 3,051 cases reported in 1947 as compared to 2,773 in 1948.

Consultation service to private physicians also increased from a total of 283 to 333.

An efficient central tuberculosis case register was completed during the year and local case registers were set up in all counties.

The two new bus x-ray units having their own power were delivered in October of 1947 and are being used extensively in mass survey work.

In 1947 there were 668 hospital beds for the tuberculous with a total of 200,632 patient days. No new beds were added in 1948 but the various sanatoria operated at greater capacity with 217,621 patient days.

The committee strongly recommends that the Diagnostic Clinic speed up its reporting to physicians. In some instances reports are two months in reaching the physician treating the case. This speeding up of reports could easily be accomplished by immediate typing and mailing of reports to the physicians and the health departments of all positive cases promptly after reading by the examiner. This would provide

a rapid double-barreled approach to the problem and result in early hospitalization of patients before their disease becomes too extensive or their lungs become adherent to the chest wall.

RECOMMENDATIONS

1. That we adopt an accelerated plan for the fight against the ravages of tuberculosis.

2. Amend the existing compulsory chest x-ray law to include all persons from 15 years up. (The present law calls for compulsory chest x-rays of persons 15 years to 50 years of age.)

3. Appropriate adequate funds to speed up the compulsory chest x-ray provision in Alabama—with the exception of Jefferson, Mobile and Montgomery counties, that they may be x-rayed under the supervision of the State Health Department by 1953.

4. Petition the Public Health Service to bring in facilities to x-ray Jefferson, Mobile and Montgomery counties by 1953, at no cost to the state.

5. Appropriate funds for the erection of 900 new sanatoria beds by 1953, which, added to the 600 now in operation, will bring the total to 1,500. In addition, appropriate adequate funds for the proper maintenance of all 1,500.

6. That the State Health Department set up the machinery for an accelerated tuberculosis control program in anticipation of increased funds from National Health Legislation and the Hill-Burton Act.

The committee does not feel that we should unload these recommendations on Dr. Gill and the State Health Department for proper disposal but that the State Medical Association, through its high professional standing, should lend all of its resources to assist in the passage of the necessary legislation.

If you gentlemen foster the ideals that everyone should have an opportunity to get well, then, this will not become just another committee report.

Paul W. Auston
Chairman

L. O. Davenport
A. H. Russakoff

Medical Service and Public Relations

At this time last year I reported to you that we had secured the services of Mr. W. O. Dobbins, Jr. as full-time Public Relations Director, which office is under the auspices of the Committee on Medical Service and Public Relations. However, it was later learned that Mr. Dobbins could not accept. This naturally meant we had to continue our search for the right man.

As of July 1, 1948, Mr. W. A. Dozier, Jr. assumed the responsibilities of Director of Public Relations. Since that time many of you have met him. We thought then and, after nine months, we still think that our's was a fortunate selection.

Mr. Dozier was first sent on a tour of inspection of Virginia, Illinois, Michigan and the American Medical Association so that more background could be had in the field of medical public relations. The committee, with Mr. Dozier, then sat down to draw up a beginning program for this

Association. This program was approved by the Board of Censors on September 15, 1948, and a copy of it was sent to each member of the Association. This committee had four all-day meetings planning this work.

An office was set up at 17 Molton Street, Montgomery, and it was equipped with only the necessary office equipment. It is your office and you are urged to visit it.

The next problem was to get the Director before you so that you could hear and see him in action. He was subsequently invited to meet with fourteen County Medical Societies and to talk with them about our program. Speeches have also been made at five division meetings of the Association, and he has appeared before six Woman's Auxiliary meetings. He has been called on quite often to carry our message to groups other than our profession and in this effort has spoken to twenty-two civic clubs, women's clubs, allied professional groups, state governing groups, and the like.

Two regular releases from the Public Relations Office have been instituted. All of you receive PR NOTES each month. The second release is a weekly newspaper column which is sent to any newspaper in the state that desires it. The column, entitled "Your Health," deals with health subjects and is written in a layman's terms. To date, forty-nine (49) newspapers carry this material. Other releases to newspapers go out as often as the situation warrants.

The work toward informing the public of the possibility of more socialization of our country through the passage of National Compulsory Health Insurance came more sharply into focus at an earlier date than was anticipated. The American Medical Association at its Interim Session in St. Louis, Missouri, decided to take a more active part in the campaign.

Our first step was to conduct a mail poll to ascertain the feelings of the members within the Association. There was a 60% response to this poll, which percentage is high. It was learned that 96% of our members who voted oppose National Compulsory Health Insurance; thus we were sure that our efforts were in accord with the wishes of our group.

Besides the Interim Session mentioned above, the Director, in company with our President, Dr. Jones, attended the Annual Rural Health Conference in Chicago. While there he lead a discussion which Dr. Jones was to have lead but could not attend because of other work.

On February 10, 1949 plans which were begun last summer came to fruition in the First Work Conference of the Health and Medical Care Council of Alabama. Upwards of 85 people, who represented thirteen state-wide organizations, met in Birmingham. The organizations taking part in the conference were: Alabama Dental Association, Alabama Farm Bureau Federation, Alabama Hospital Association, Alabama Pharmaceutical Association, Alabama State Nurses' Association, Allied Health Council of Alabama, Associated Industries of Alabama, Congress of

Industrial Organizations, Extension Service of the Alabama Polytechnic Institute, Health and Medical Care Council of Alabama, Medical Association of the State of Alabama, State Department of Health, and State Department of Public Welfare. For a full day and evening these people discussed the health problems of our state and means of improving the health situation as it now stands. From this conference there came a number of recommendations. The delegates to the conference are taking these recommendations back to their respective parent organizations for consideration and approval. Your Committee on Medical Service and Public Relations has endorsed these recommendations with the following addition to Problem II: "That there should be a legislative appropriation to provide vocational education for the training of practical nurses in the Trade Schools of Alabama." The Public Relations Office worked through all phases of this conference and was greatly instrumental in its being brought to a successful termination. The recommendations from this conference are submitted for your consideration and action.

On February 12 the American Medical Association, through the offices of the Whitaker and Baxter Public Relations Firm, announced its program for a National Education Campaign to inform the public of the advantages of a free enterprise system in relation to medicine. This is the campaign for which each of us has been requested to contribute \$25.00. May I say that we in this state through the public relations groups on the county and state levels are in an excellent position to handle any requests made upon us. Our organization is so set up that no changes are necessary to fit our plans to those of the American Medical Association. Their work as well as ours must go on if we are to succeed in this great effort of preserving in our democracy the basic foundation upon which we as a nation are built.

Our work in this campaign has not been confined to motivating this profession alone. Other groups, such as the dentists, the druggists, the attorneys and the Alabama Hospital Association, have been active with us in our efforts. The Public Relations Office in Montgomery has just finished working through a series of radio programs which can serve as a model for local groups. This series was sponsored by the Montgomery Retail Druggists' Association. This model is, or very soon will be, in the hands of the County Public Relations Committees.

We are working closely with the Hospital Service Corporation in its efforts to extend the coverage of voluntary health insurance. Services have been offered and rendered to the Hospital Planning Division of the State Department of Health and to local hospital groups who are working toward better hospital facilities in Alabama.

Our expenditures for the last nine months have been to the sum of \$9,753.62. Our fiscal year begins on April 1, for it is only then that any accurate estimate may be made of available funds

for the ensuing year. Of the original \$5,000 grant for the purpose of setting up this committee and office there is \$3,019.67 left. It is requested that this amount remain in our fund for the purpose of finishing the equipping of the office. The purchases have been made for the office as the work grew and made demands. Thus we have not been in a position of spending unwisely. Increased work in our office now demands the purchase of additional equipment, and it is for this purpose that we propose to use the remainder of the original grant.

The committee was instructed by the Board of Censors to investigate the possibility of conducting an opinion poll in the state to ascertain the feelings of the people toward the profession. Though some advantages could accrue from such a poll, the committee has taken no positive action because of the cost factor. Comparable polls in other states have or are costing a figure in the neighborhood of \$15,000. The committee felt that such a cost is prohibitive at this time.

A subcommittee of three members has been active in working with representatives of the Alabama State Nurses' Association in an effort to arrive at a solution to the problem of the great shortage of nurses. I am happy to report that at the last meeting between the nurses' representatives and our committee some accord seems to have been reached. It seems advisable to drop the Doctor's Assistants program at this time. The nurses and we feel the need for a University School of Nursing, and the nurses request that we help them in securing this school. It also seems that a program for training practical nurses in the Trade Schools of Alabama would be a step in the right direction and would help alleviate our present shortage. Furthermore, the nurses' representatives have stated that they see no reason why this Association should not be the group to select four physicians from whom the Governor selects two to serve on the Executive Committee of the Alabama State Nurses' Association, and they have promised to lay the matter before their Board of Directors.

May this committee call to your attention the fact that Senator Lister Hill has proposed a Voluntary Health Insurance Bill. This committee has endorsed the principles and philosophy behind this proposal, for we feel that they are commensurate with our aims. However, it is not yet certain the bill is workable. We believe it needs more study.

In looking back at the work of this committee for the last year and comparing it with the work done in other states, we feel that, though we had a slow start, we are now making progress comparable to that in states whose public relations committees are older than is ours. We again plead with every doctor in Alabama to join with us in this fight to the death. If we are to win we must have your genuine support in our efforts to spread the cost and the distribution of medical care.

BUDGET

	Expenditures July 1, 1948- March 31, 1949	Proposed Budget April 1, 1949- March 31, 1950
Salaries		
Director	\$3,749.94	\$6,000.00
Clerical Assistance	880.00	2,600.00
Travel Expense		
Committee	359.57	700.00
Director	1,171.12	2,000.00
Office Equipment	1,327.76	2,000.00
Office Rent	420.00	720.00
Stationery and Office Supplies	699.07	1,200.00
Telephone and Telegraph	160.37	400.00
Press	159.78	500.00
Radio		500.00
Printing, Literature, Bulletins, etc.	227.92	600.00
Postage	381.87	750.00
Commercial Art	10.00	250.00
Library	46.20	200.00
Miscellaneous	160.02	5,158.31
	<u>\$9,753.62</u>	<u>\$23,578.31</u>

RESOLUTION

Whereas, Veterans are civilians now removed from active service in the Armed Forces, and as civilians are a part of community life, and

Whereas, Under present laws for non-service disabilities hospital service benefits are not equally available to all veterans, and

Whereas, The Hoover Commission has pointed out that on the matter of non-service connected disabilities the present situation is inequitable to veterans and unsound and expensive for the government, now therefore be it

Resolved, That the Medical Association of the State of Alabama endorses the proposals of the Joint-Committee on Veterans' Affairs of the American Medical Association and the American Hospital Association as made to the Medical Advisory Committee of the American Legion, which proposals are herein stated as:

1. Program of benefits.

(a) That the Veterans' Administration be authorized by Act of Congress to issue to each veteran who is eligible for hospital service benefits for non-service connected disabilities under existing laws, and to all veterans who may hereafter become eligible for such benefits, a hospital and medical service contract with benefit provisions sufficient for coverage of the cost of necessary hospital and medical expense incurred in rendering such service in a hospital which is approved for service to veterans by the Veterans' Administration, or that the Veterans' Administration be authorized to purchase such contracts from any corporation issuing and administering such contracts which the administrator of veterans' affairs may approve.

(b) That veterans unable to regularly defray the cost of premiums for hospital insurance, as do individuals in the civilian population, qualify for such service contract by applying to the Veterans' Administration under the terms set forth

in the law governing the admission of veterans with non-service connected disabilities to veterans' hospitals.

(c) That the following disabilities be excluded from the contract:

(1) Service connected disabilities.

(2) Chronic illness or other illness requiring care beyond ninety (90) days.

(3) Disabilities which require domiciliary care.

(4) Disabilities covered by state or federal compensation legislation.

(d) That veterans with the above-named disabilities in categories 1, 2, and 3 be eligible for admission to Veterans' Hospitals, and that veterans whose disabilities are in dispute as to whether they are service-connected or not be eligible for admission to Veterans' Hospitals.

2. The present program of hospital benefits to veterans with non-service disabilities be discontinued in favor of the proposed plan.

RECOMMENDATIONS FROM PROBLEM NO. I
HEALTH AND MEDICAL CARE COUNCIL*Ways of Getting Hospital Care and Medical Services Extended to More People*

1. All respective groups affected make every effort to eliminate the shortages of personnel now existing in the fields of medicine, nursing, pharmacy, dentistry, hospitals and public health agencies.

2. The Health and Medical Care Council of Alabama expand its membership to interest and educate more groups at the state level concerning the deficiencies and needs in rendering more adequate health and medical care to the people of Alabama.

3. Encourage enrollment in voluntary medical and hospital insurance plans and encourage pre-paid insurance for indigents, payment to be made by federal, state and local governments.

4. The Workmen's Compensation Law be amended to provide more adequate medical and

surgical benefits for those qualified under said law.

5. Petition the Medical Association of the State of Alabama to appoint a committee to study the problem of more adequate care for alcoholics.

6. Regulations for licensing hospitals and nursing homes be established through the proper legal methods in order that all be operated on a professional basis and under supervision for the safety and protection of the people.

7. Urge state aid providing appropriations sufficient for more adequate health facilities including:

1. Medical School of Alabama
2. Collegiate Nursing School
3. Dental School
4. More funds for cancer control
5. More funds for tuberculosis control
6. \$3,000,000 annually for hospital construction under the Hill-Burton Act.
7. General public health appropriations
8. Funds for Negro medical education, including dentistry and nursing

8. If present funds are not sufficient to cover the above appropriations, request that the Legislature of Alabama provide ways and means of securing funds and if necessary this to be done through increased taxation.

RECOMMENDATIONS FROM PROBLEM NO. II HEALTH AND MEDICAL CARE COUNCIL

Recruitment, Training and Placement of Personnel for Medical Service in Alabama

1. Recruitment will not be a problem if the right kind of facility is available and adequate for the training of each type of personnel. A possible exception may be the field of nursing, and here an educational program may be necessary to acquaint the public with the dignity of nursing and its opportunity for a worth-while service.

2. A. The Health and Medical Care Council, through its constituent agencies, should engage in an educational campaign among the people and among the members of the House and Senate to establish the need for legislative grants sufficient to expand the facilities for medical, dental, and nurse education, including the creation of a University School of Nursing; and for field experience in hospital administration.

B. There should be a scholarship fund by legislative appropriation for advanced nursing education.

3. Placement of personnel will not be difficult if the supply is sufficient and if communities interest themselves in providing satisfactory facilities through which health and medical care may be dispersed.

RECOMMENDATIONS FROM PROBLEM NO. III HEALTH AND MEDICAL CARE COUNCIL

Inspecting, Grading, and Licensing Hospitals in Alabama

1. The state should have hospital licensing regulations because they are an important link in the entire health program.

2. Minimum standards should be established in order to form a basis for the licensing of hospitals.

3. Hospitals should not be graded, for grading might be misunderstood by the public and might be unfair to some hospitals.

4. The State Health Department should be the agency to establish and enforce the rules and regulations concerning hospital licensing, subject to the approval of an Advisory Committee composed of representatives of hospitals, professions, and consumer groups.

5. Hospitals already established should be given time to meet the requirements of the licensing law. New or proposed hospitals should be required to submit an application before beginning operation. (The time required for the initial licensing of hospitals should be left to the Advisory Committee.)

6. A licensing fee on a sliding scale should be charged for the inspection of hospitals. Since this will not be sufficient to cover the cost of establishing and operating the program, the balance of the funds should be secured by an appropriation of the legislature for this specific purpose.

7. Licensing should include all hospitals in the state except Federal hospitals. Federal hospitals are omitted because the state has no authority to regulate them.

RECOMMENDATIONS FROM PROBLEM NO. IV HEALTH AND MEDICAL CARE COUNCIL

Education and Participation of Lay and Professional Groups in the Planning and Operation of County Health and Medical Care Councils

1. Such councils should:

- a. Keep alive professional interest and perspective in allied health fields.
- b. Create an awareness of health and medical needs in the community.
- c. Stimulate action on local problems.
- d. Create knowledge of all private and public health agencies through exhibits and the like.
- e. Carry out state objectives.
- f. Coordinate various groups in health work.

2. The councils should get started:

- a. Through local initiative, for it is important to make clear the purpose of the council to local people, to prevent misunderstanding.
- b. Through State Council stimulation.
- c. Through recognition of local needs.

3. All interested groups could and should be brought into local councils with specific representation: ministerial association, municipal government, labor unions, men's and women's groups, local leadership.

4. Councils can be motivated by:

- a. Giving specific projects such as surveys, health examinations, dental clinics. Given nothing definite to do, the council dies.
- b. Getting grass roots of organization first: then having workshop of several counties.
- c. Advising local people by report of findings of today's conference.

5. State groups should explain to local groups the purposes of a local health council and the need of getting behind its local organization. Responsibility for this should be placed squarely on the shoulders of local representatives.

The State Council should do a more specific job of organization of local councils: more direct organization help; more specific, furnish consultant or speaker to local group when requested.

The Chairman of the Health and Medical Care Council should consider the appointment of an organization committee to assist in setting up county councils.

6. The following work procedures are suggested for county councils:

a. Appoint a committee with a specific function, to report at regular intervals. Publicize accomplishments by press and radio. This will show up *needs* as well as *accomplishments*.

b. Assign duties to specific groups such as TB, etc. Resources of this group can be utilized by total council.

c. Establish a discussion time for presentation of local problems such as lunch-room problems, sanitary conditions, health education such as home nursing, etc., nutrition, tuberculosis, cancer, all voluntary health agencies.

d. Provide a good training program for the volunteer in his specific field of voluntary effort. Result in selecting some professional field such as technician, nurses, voluntary aids.

e. Inaugurate a recruitment and vocational guidance program in the health movement, through 4-H clubs and other youth groups.

f. Find ways and means to provide money for those interested in specific professional fields (scholarships).

g. Utilize resource people on state level.

h. Watch the type of publicity used—not scaring.

i. Take one short-range problem for solution, then take long-range; immunization could be stressed.

j. Study and publicize legislative programs of State Health and Medical Care Council.

7. Local councils should develop better relationships with State Council by:

a. Close cooperation and exchange of ideas, especially when local problems present themselves.

b. Making facilities and means of solution more available when necessary.

c. Keeping State Council advised of projects, results, etc., of local council.

d. State Council keeping local councils advised of trends, both state and national.

e. Locally publicizing to a greater extent the warning notices sent by State Health Department.

8. The following media should be used to reach the public:

a. Open public meetings.

b. Press, schools, radio, rural groups, home nursing classes, civic clubs (men's and women's), church groups, individual contact, teacher education in health, localizing information, films, appointing a representative from every precinct as a member of the local council.

9. All information should be cleared through the executive committee, state or local as the case may be, then through member organization groups in their respective organizations.

C. A. Grote

Chairman

Frank Jordan

E. L. Gibson

W. R. Carter

F. W. Riggs

Arthur Mazyck

E. G. Givhan, Jr.

B. W. McNease

J. G. Daves

J. D. Peake

J. Paul Jones,
ex officio

D. G. Gill,
ex officio

Douglas L. Cannon,
ex officio

Committee of Publication

Douglas L. Cannon, Chairman

The monthly circulation of the Journal at December 31, 1948 was 1950 copies, 1666 of which went to members of the Association, 87 to exchanges, 68 to advertisers and advertising agents, and the remainder to nonmember subscribers and the files of the Association.

Advertising and miscellaneous Journal receipts in the calendar year 1948 amounted to \$10,317.99. Cost of publishing and distributing the Journal was \$12,001.51. The difference between receipts and expenditures was met from dues of members, \$1.00 of which represents subscription to the publication.

Transactions, also, were furnished the members of the Association, and the cost of this item was \$922.22.

Report of the Secretary-Treasurer

Douglas L. Cannon

TIME OF MEETING

Difficulty in procuring hotel accommodations for the annual session of the Association prompts the Secretary to recommend that the third Thursday rather than the third Tuesday in April be the first day of the meeting. This change would mean that in the next ten years, as a sample, the beginning date would not be earlier than the fifteenth day of the month nor later than the twenty-first day. Managers of hotels in the cities where the Association convenes urge that this alteration be made, giving as their reason that the forepart of the week belongs to traveling salesmen, making it impossible for them to provide for any large number of physicians if the meeting is held at that time. They state they will be better able to provide for the Association if the last half of the week is used. Should the Association look with favor upon making the change, then the Ordinance entitled "Sessions of the Association, and Order of Business Therein" would be amended in the following particulars to read:

Section 1. That the sessions of the Association shall comprise three days, Thursday, Friday and Saturday, the third Thursday in April being the first day of the meeting.

Section 2. That the Association shall be called to order by the president at nine o'clock on Thursday morning the first day.

The remaining sections of the Ordinance, which have to do with order of business, would remain unaltered.

THE A. M. A. ASSESSMENT

At the interim session of the American Medical Association held in St. Louis, November 30-December 3, 1948, with Doctors D. G. Gill and B. W. McNease representing our Association, the House of Delegates unanimously voted to assess each member of the Association \$25, the fund thus provided to be used for a nationwide plan of education on the progress of American Medicine, the importance of the conservation of health and the advantages of the American system in securing a wide distribution of a high quality of medical care. Secretaries of county medical societies were advised of the action of the House of Delegates and requested to collect the assessment. On April 18, the sum of \$19,875 had been collected and transmitted through the Secretary's office to the American Medical Association. This represents 45.5 per cent of the amount that should have been remitted on the basis of our membership, leading to the deduction that the State Board of Censors will urge you in its report on Thursday morning to do the necessary thing in meeting the situation. Every member of our Association is a member of the American Medical Association and therefore subject to the assessment.

GENERAL PRACTITIONER'S AWARD

The American Medical Association has adopted the practice of honoring one general practitioner as outstanding in the United States each year; and has set in operation a plan whereby (1) each county medical society is urged to name the candidate of its choice as the outstanding general practitioner for the year within its jurisdiction; (2) the name of each candidate so chosen by a county medical society, with all pertinent data, including recommendations of lay groups and individuals, shall be submitted to the State Medical Association; (3) the Association, through whatever agency it may designate, shall select from among the candidates submitted by the county medical societies one name to be declared the outstanding general practitioner within the State; and (4) the candidate so selected shall be submitted to the Board of Trustees of the American Medical Association.

In order that there may be a group at the state level to consider the nominations made by county medical societies, it is recommended that an advisory committee be named to discharge the function or that a committee be created for the purpose.

MEMBERSHIP OF THE ASSOCIATION

The membership of the Association, as enrolled April 1, 1949, is 1749, greater by 97 than the number reported a year ago. Of the State's 1938 physicians, 90 per cent are identified with the Association.

DEATHS

Forty-one (41) members of the Association have died since the report of 1948 was rendered. In the number were Life Counsellors S. A. Gordon, F. A. Lupton, K. A. Mayer, R. H. Redden and R. W. Waldrop; and Active Counsellors C. K. Weil and D. H. Wright. Dr. Gordon was presi-

dent of the Association in 1940-41; and Dr. Mayer had been a member of the State Board of Censors since 1936. The complete obituary record follows:

Abernathy, T. P.	Moundville
Argo, Eugene	Goodwater
Box, T. T.	Ensley
Bridges, Terrell	Montevallo
Brown, J. M.	Gadsden
Clayton, E. C.	Leeds
Coleman, G. C.	Birmingham
Dillon, J. F., 3rd	Montgomery
Duncan, W. W.	Aliceville
Glasgow, T. J.	Russellville
Gordon, S. A.	Marion
Jones, Walter C.	Sheffield
Kelly, E. L.	Repton
Lett, E. R.	Tallassee
Lloyd, W. K.	Anniston
Love, J. T.	Birmingham
Lupton, F. A.	Birmingham
May, W. L.	Powhatan
Mayer, K. A.	Lower Peach Tree
McCrary, G. C.	Jackson
McElroy, J. M.	Attalla
Murphy, C. M.	Aliceville
Neely, M. G.	Birmingham
Owens, A. H., Sr.	Ashland
Peacock, L. E.	West Blocton
Powell, H. B.	Gadsden
Pugh, J. T.	Grove Hill
Redden, R. H.	Sulligent
Rennie, T. L.	Pell City
Self, G. W.	Trafford
Terrill, E. C.	Mobile
Tippins, H. K.	Geneva
Vaughan, A. E.	Geneva
Waldrop, R. W.	Bessemer
Wallace, G. O.	Clayton
Weaver, F. C.	Anniston
Weil, C. K.	Montgomery
Wheeler, N. A.	Lafayette
Wilson, J. M.	Mobile
Wright, D. H.	Berry
Yancey, G. C.	Tuskegee

Dr. James Mack Brown, 82 years old and of the class of 1888 at the Medical College of Alabama, then located in Mobile, had been practicing medicine for more than 60 years at the time of his death on August 14, 1948. At the session of 1948 he was awarded the Association's Certificate of Distinction for his half century or more of practice, as were also Doctors Argo, Gordon, May, Murphy, Peacock, Self, Waldrop and Wallace.

THE FIFTY YEAR CLUB

This year, Certificates of Distinction are to be awarded 20 physicians who now become members of the Fifty Year Club. They are:

Dr. W. T. Berry	Birmingham
Dr. J. T. England	Mobile
Dr. E. T. Fields	Ensley
Dr. E. P. Green	Jacksonville
Dr. P. L. Hollingsworth	Belleville
Dr. P. I. Hopkins	Dothan
Dr. J. A. Jackson	Sulligent

Dr. Cabot Lull	Birmingham
Dr. T. M. Martin	Plantersville
Dr. J. M. Mason	Birmingham
Dr. F. H. McConico	Montgomery
Dr. J. S. McLester	Birmingham
Dr. W. G. Meharg	Anniston
Dr. W. E. Noel	Boaz
Dr. C. L. Stansberry	Oneonta
Dr. Charleton Thompson	Tuskegee
Dr. A. L. Townsend	Slocomb
Dr. A. J. Underwood	Spruce Pine
Dr. M. L. Watkins	Glenwood
Dr. W. W. Whorton	Pratt City

Posthumous awards are to be made to the families of Drs. T. P. Abernathy, Moundville, and F. A. Lupton, Birmingham.

PRESIDENTIAL APPOINTMENTS

To serve until this meeting, President Jones appointed Dr. B. W. McNease of Fayette a Censor to succeed Dr. K. A. Mayer, who died March 3, 1949.

As delegate and alternate, respectively, in the House of Delegates of the American Medical Association, President Jones appointed Drs. C. A. Grote and G. A. Denison, their terms to expire December 31, 1950.

Committee appointments were made as follows: On the newly created Committee on Tuberculosis—Drs. Paul W. Auston, A. H. Russakoff and L. O. Davenport; Mental Hygiene, Dr. J. S. Tarwater; Maternal and Child Health, Dr. Thomas Boulware; Cancer Control, Dr. Roger D. Baker; Prevention of Blindness and Deafness, Dr. R. J. Grayson; Postgraduate Study, Dr. Ralph McBurney; Industrial Medicine, Dr. Benjamin Meyer; Physician-Druggist Relationships, Dr. R. E. Cloud; and Anesthesiology, Dr. S. W. Collier.

STATUS OF COUNSELLORS-ELECT

At the last meeting of the Association, seven members—Drs. William F. Harper, W. S. Littlejohn, Arthur Mazyck, R. D. Neal, Robert Parker, Bryce Robinson and P. P. Salter—were elected Counsellors. All have qualified fully as required by the Constitution and should be added to the Roll of Active Counsellors when the revision is made on Thursday morning.

OFFICERS TO BE ELECTED

Officers to be elected at this session are a President, a Vice-President of the Southwestern Division to succeed Dr. W. R. Carter whose term will end with this meeting; a Censor for two years to complete the unexpired term of Dr. K. A. Mayer, deceased; and two Censors for five years to succeed Drs. E. G. Givhan, Jr., and J. D. Perdue because of expiration of term.

There are to be elected, also, 18 Counsellors: *From the 1st Congressional District*, 4. Dr. G. G. Oswalt is to be elevated to Life Counsellor. Dr. J. M. Weldon's second term of seven years has expired. The first terms of Drs. W. J. Barber and G. O. Segrest have expired. *From the 2nd*, 2. Dr. C. K. Weil is deceased. Dr. C. G. Godard's first term of seven years has expired. *From the 3rd*, 2. The second terms of Drs. V. J. Thacker and J. S. Tillman have expired. *From the 5th*, 2. The second terms of seven years of Drs. W. H.

Riser and B. C. Scarbrough have expired. *From the 7th*, 1. Dr. D. H. Wright is deceased. *From the 8th*, 2. The second terms of seven years of Drs. Erskine Chenault and Rayford Hodges have expired. *From the 9th*, 5. Dr. Lloyd Noland is to be elevated to Life Counsellor. The first terms of seven years of Drs. C. N. Carraway, H. Earle Conwell, John W. Simpson and Frank C. Wilson have expired.

APPOINTMENTS TO BE MADE

Committees presenting vacancies because of expiration of term are: Medical Service and Public Relations (Drs. C. A. Grote and Frank Jordan), Mental Hygiene (Dr. E. S. Sledge), Maternal and Child Health (Dr. Hughes Kennedy, Jr.), Cancer Control (Dr. French Craddock, Jr.), Blindness and Deafness (Dr. W. B. Hardy), Postgraduate Study (Dr. G. O. Segrest), Industrial Medicine (Dr. H. Earle Conwell), Physician-Druggist Relationships (Dr. W. M. Salter), Anesthesiology (Dr. Alice McNeal), and Tuberculosis (Dr. Paul W. Auston).

It will be a responsibility of the next President to make these appointments and to designate a delegate and an alternate to the American Medical Association to succeed Drs. Lloyd Noland and D. G. Gill, respectively, whose terms will expire December 31, 1949.

FINANCE

The accounts of the Association for the year 1948 have been audited by Crane, Jackson and Wilson of Montgomery, and the audit constitutes the concluding pages of this report.

The Officers and Members,
The Medical Association of the State of Alabama,
Montgomery, Alabama.
Gentlemen:

We have now completed our examination of the Cash Accounts of the Treasurer of the Medical Association of the State of Alabama, for the calendar year 1948, and have prepared and submit the following statements:

Exhibit "A": Summary Statement of Cash Receipts and Disbursements for the calendar year 1948.

Exhibit "B": Detail of Cash Disbursements for the calendar year 1948.

Exhibit "C": List of Securities owned at December 31, 1948.

Our audit embraced all procedures of past years and included the tracing of all recorded cash receipts to the record of deposit of funds as indicated by bank statements produced for our examination. All bank checks paid during the period were examined as to amount, signature, and endorsement, and were vouched to the record of checks issued. Footings of the books of original entry were proved.

Securities owned by the Association, and listed in our Exhibit "C", were verified by physical examination, in company with Dr. Douglas L. Cannon, on March 9, 1949, at the Safety Deposit Vault of the First National Bank of Montgomery, Alabama.

Respectfully submitted,
Crane, Jackson and Wilson
By H. C. Crane, C. P. A.

Exhibit "A"

THE MEDICAL ASSOCIATION OF THE
STATE OF ALABAMA
SUMMARY STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS
FOR THE YEAR ENDED DECEMBER 31, 1948

Balance, January 1, 1948:

First National Bank of Montgomery, Alabama:

Checking Account	\$ 8,100.05	
Savings Account	1,322.38	\$ 9,422.43

Cash Receipts:

Association:

County Dues	\$18,765.00	
Counsellors	2,305.00	
Roster of Association	62.65	
Interest on Savings Account	13.25	\$21,145.90

Journal:

Advertising	\$ 9,457.19	
Cooperative Medical Dividend	712.98	
Non-Member Subscriptions and Sales	108.50	
Excess Cuts	39.32	10,317.99 \$31,463.89

Cash Disbursements (Exhibit "B"):

Association	\$ 4,470.12	
Medical Service and Public Relations	6,725.95	
Journal	12,001.51	23,197.58

Excess—Receipts over Disbursements	\$ 8,266.31	
Add: Balance, January 1, 1948	9,422.43	

Balance December 31, 1948 \$17,688.74

Consisting of:

First National Bank, Montgomery, Alabama:

Checking Account	\$16,353.11	
Savings Account No. 1973	1,335.63	
		\$17,688.74

Exhibit "B"

THE MEDICAL ASSOCIATION OF THE
STATE OF ALABAMA
ANALYSIS OF CASH DISBURSEMENTS
FOR THE YEAR ENDED DECEMBER 31, 1948

Association:

Salary—Dr. D. L. Cannon \$ 600.00

Annual Meeting:

Expense of Lecturers	\$ 1,125.14	
Recording Proceedings	259.27	
Programs	230.55	
Badges	95.77	1,710.73

Printing and Stationery	1,414.43	
Expenses of Delegates to American Medical Association	272.55	
Postage	120.00	
Expenses of Divisional Meetings	86.97	
Crane, Jackson and Wilson—Audit Fee	56.00	
Dues and Subscriptions	30.00	
Committee on Maternal and Child Health	19.59	
Treasurer's Bond	50.00	
Lettering Fifty Year Club Certificates	33.00	
Radiant Tripod Screen	35.70	
Miscellaneous Office Expense	35.15	
Rental—Safety Deposit Box	6.00	\$ 4,470.12

Medical Service and Public Relations:

Salaries, Public Relations:

W. A. Dozier, Jr., Director	\$ 2,365.86	
Theresa Swinson—Clerical	487.00	\$ 2,852.86
Office Supplies and Equipment		1,405.38
Stationery and Printing		750.43
Directors' Traveling Expense		850.00
Office Rent		300.00
Committee Members' Expenses		217.58
Postage		174.00
Expense of Delegates to A. M. A.		97.69
Telephone and Telegraph		54.81
Dues and Subscriptions	23.20	6,725.95

Journal:

Salaries:

Douglas L. Cannon, M. D.	\$ 600.00	
Lurette Kilpatrick	720.00	
William W. Wilkerson, M. D.	300.00	\$ 1,620.00

Printing and Mailing Journal	10,361.51	
Clerical Assistance	20.00	12,001.51

Total Disbursements \$23,197.58

Exhibit "C"

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA
SECURITIES OWNED
AT DECEMBER 31, 1948

Number	Type	Date of Issue	Purchase Price	Redemption Value 12-31-48	Increase	Date of Maturity	Maturity Value
20	\$500.00 Series "C" U. S. Government War Savings Bonds Numbered D459763C to D459782C, inclusive	Oct. 11, 1938	\$ 7,500.00	\$10,000.00	\$ 2,500.00	Oct. 1, 1948	\$10,000.00
7	\$500.00 Series "F" U. S. Government War Savings Bonds Numbered D191057F to 191063F, inclusive	July 1, 1943	2,590.00			July 1, 1955	3,500.00
6	\$500.00 Series "F" U. S. Government War Savings Bonds Numbered D22060F to D22065F, inclusive	Jan. 1, 1944	2,220.00			Jan. 1, 1956	3,000.00
4	\$500.00 Series "F" U. S. Government War Savings Bonds Numbered D27410F to D27413F, inclusive	June 1, 1944	1,480.00			June 1, 1956	2,000.00
3	\$500.00 Series "F" U. S. Government War Savings Bonds Numbered D385709F to D385711F, inclusive	May 1, 1945	1,110.00			May 1, 1957	1,500.00
11	\$500.00 Series "F" U. S. Government War Savings Bonds Numbered D386331F, D386367F to D386369F, inclusive; D386371F, D386373F to D386376F, inclusive; D386378F to D386379F, inclusive	Nov. 1, 1946	4,070.00			Nov. 1, 1958	5,500.00
			<u>\$18,970.00</u>				<u>\$25,500.00</u>

Report of Vice-President Carter

Southwestern Division

During the past year two scientific meetings were held in the Southwestern Division. The first was held in Monroeville on Thursday afternoon, July 19th, 1948. The Monroe County Medical Society acted as host. The following program was presented in a most excellent manner:

- (1) Invocation—
Reverend Reed L. Polk.
- (2) Address of Welcome—
Doctor R. A. Smith, President, Monroe County Medical Society.
- (3) What's New in Pediatrics—
Doctor J. H. Baumhauer, Mobile.
- (4) Recent Advances in the Management of Surgical Lesions of the Gastro-Intestinal Tract—
Doctor J. M. Donald, Birmingham.
- (5) Prenatal Care—
Doctor J. M. Weldon, Mobile.
- (6) Protein in the Treatment of Disease—
Doctor J. S. McLester, Birmingham.

The second meeting was held in Selma, at the Selma Country Club, October 13, 1948. A splendid program was arranged by the program committee of the Dallas County Medical Society, with the following doctors appearing on the program:

- (1) Diaphragmatic Hernia—
Doctor Hugh Linder, Birmingham.
- (2) Low Sodium Diet in Heart Failure—
Doctor Howard Holley, Birmingham.
- (3) Mercurial Diuretics in Heart Failure—
Doctor A. B. Riser, Birmingham.
- (4) Clinical Significance of the Rh Blood Factor—
Doctor William H. Riser, Jr., Birmingham.
- (5) The Pathogenic Fungi—
Doctor Ray Noojin, Birmingham.
- (6) The Early Diagnosis and Treatment of Cancer of the Uterus—
Doctor W. Nicholson Jones, Birmingham.

Both meetings were well attended; the programs were ably presented; good fellowship was much in evidence; the entertainment was superb.

A third meeting of the organizational type was held in Marion on February 24, 1949. Doctor Paul Jones, our State President, suggested that we organize several counties in one group in order to have a sufficient number of doctors present. Doctor Roy Kracke assured us the Medical College of Alabama would supply the essayists, provided the attendance would be sufficient to justify their coming. The plan is still in the formative stage, but we feel that it has great promise.

The doctors in the rural counties are still badly overworked, due to the fact that most of the recent graduates prefer the urban areas. Having practiced for the past twenty-four years in the country, I would like to assure them that "the fields are fertile and the grass is green."

In conclusion, I want to thank the members of the Southwestern Division for their fine spirit of cooperation. I wish to express my appreciation to the Association for the honor and privilege of serving the unexpired term of Doctor Paul Jones. It has been a pleasure to serve in this capacity.

Report of Vice-President Jordan

Northeastern Division

The Northeastern Division of the Association held a meeting in Gadsden, October 7th, 1948.

The Etowah County Medical Society was the friendly host and the doctors were given a hearty welcome and served a nice luncheon, following which a scientific program of excellent essays was presented and the meeting finished at 5 P. M.

Attendance at the meeting was far below expectation, considering the central meeting point of the district and the splendid program offered and mailed out well in advance. It is noted that too many doctors fail to go to their district meetings at any time or any place and this is deplored.

Guest speakers give their time at a personal sacrifice and travel a distance to present interesting and timely essays of great value to any and every physician and are disappointed by the many empty chairs and a poor crowd. The district meeting is an important part of the plan in the program of the Association and it is therefore urged that the doctors support the work attending them. Lip service to the objectives and aims of organized medicine is not enough at this time: every doctor in the state must contribute individually and close the ranks to promote and safeguard the best interest of the medical profession. Many of the doctors in the district are giving talks before the civic clubs with facts about socialized medicine and having their friends and patients write their Representatives and Senators in Washington opposing the plan. This we feel is a valuable contribution to the cause of free medicine and might well be done throughout the state and help defeat adverse legislation.

Report of Vice-President Gibson

Southeastern Division

During the past year the Southeastern Division had one district meeting, this meeting being held in Montgomery on January 27, 1949. Eighty-two were present, a fact that was definitely encouraging to us, as it was an increase over the attendance at any previous meeting. We were delightfully entertained on that occasion by the Montgomery County Medical Society; and I believe that we will all agree that the Montgomery Society has well developed talents as hosts for our medical meetings.

The program was scientific and those who attended were rewarded by hearing most interesting and instructive subjects, ably presented. A copy of the program is attached hereto for the record.

- 2:00 Welcome by President Montgomery Society
Francis M. Thigpen, M. D.
- 2:05 Time of Election for Pediatric Surgical Procedures
H. C. MacGuire, M. D.
- 2:30 Amebiasis (with lantern slides)
G. W. Millet, M. D.
- 3:00 Congestive Heart Failure
James T. Grimes, M. D.
- 3:30 The Diagnosis and Treatment of Skin Cancer (with lantern slides)
Ray Noojin, M. D.
- 4:00 The Diagnosis of Purpura
Dr. Stokes
- 4:30 Everyday Problems in Office Pediatrics (with lantern slides in color)
W. A. Daniels Jr., M. D.
- 5:00 Prostatic Resection (with Motion pictures)
L. R. Gayden, M. D.
- 6:00 Banquet—Dr. Francis Thigpen presiding.
- 7:00 J. Paul Jones, M. D., President of the Association.
- 7:30 W. A. Dozier Jr., Public Relations Director.

Your Vice-President has attended all meetings of the Committee on Medical Care and Public Relations during the past twelve months, and has endeavored to use the pamphlets and information sent out by our Public Relations Director to advance public relations and help the laity to know and understand the Association's position in regard to State Medicine and to help them grasp what it will mean to the American people if such legislation is passed.

Too, as a representative of the State Medical Association, your Vice-President attended (or perhaps I should say, "was present") at the meeting of the Board of Nurse Examiners and Registration and Advisory Council on October 8, 1949 in Montgomery.

I do not feel that I should offer to the Association any suggestion or recommendations about division meetings, but I have wondered if they have contributed as much toward preserving the unity and increasing the fellowship among the Association members as was intended when they were instituted. As a usual thing, the slim attendance at these meetings seems to indicate a lack of interest among the doctors of the district. There can be no doubt of the value of the scientific programs presented, but it has occurred to me that the Association might suggest something that would spur the interest of the doctors in their division meetings and promote the spirit of unity throughout the entire Association. I feel that at this time it is most important that the doctors present a united and solid front in their efforts to give to the people the best in medical care and attention and combat the political forces backing State Medicine.

Report of Vice-President Daves

Northwestern Division

For six weeks after the meeting in Mobile last year, much time was spent in trying to formulate

a program that would be of interest to the doctors in the Northwestern Division.

Before one can accomplish much with any program it must be transmitted to people, and it must have objectives that are vital enough to be attractive to those through whom it is to be executed, and it must be so practical that it can be carried out without causing too many changes in the regular daily routine of things already underway. Contingent on these conclusions it was apparent that every society and all the key men in those societies would have to be contacted in some way. The objectives of these contacts were to stimulate more activity on the part of all doctors concerning things medical and to acquaint them better with the trends of the times now existing.

Hence, the ways and means of accomplishing these purposes would require at least three avenues of approach—correspondence, personal visits, and district meetings. Therefore, on June 12, every local society president was sent a letter calling his attention to and soliciting his activity in three phases of life as it relates to medicine in his county society:

1. Fellowship, which grows better and produces more and happier results after frequent, constant and persistent meetings at definite times and places and with a well-planned program.

2. Membership of all, with each given a task and made to feel that he is rendering his best to his colleagues and to his public, for out of activity in being a member grows pride and professional stature that leads to greater usefulness.

3. From participation in the above phases there naturally come more and better services which at the present are being questioned by the uninformed and politically-minded lay people. But, nevertheless, when all doctors join together in good fellowship, free and honest consultations, frequent and friendly meetings with each appreciative of the other's attainments and capacities, without cliques or jealousies, there will be a rising tide of public appreciation and evaluation which will not fall or be swayed off balance by ill winds that most certainly will blow.

Following this, and to comply with a request of President Paul Jones, letters and questionnaires were sent to the secretaries of the district. The letters were to get facts about meeting times and places of the local societies; the questionnaires were to obtain information for the State President which were tabulated and sent to him as quickly as they were collected.

Next, every Active and Life Counsellor in the district was sent a letter which called his attention to the position of importance and influence he occupies in organized medicine in the state of Alabama. He was asked to join me in using this authority in bringing about renewed interest in things medical in this district during the year.

Then, all members of the Boards of Censors in the seventeen counties were written. In this communication it was pointed out how unique and beneficial they are in that they can and should set the pace in professional service, ethical

conduct, public relations and to a certain extent could choose the kind of men who will become doctors in the future. Their second and no less important function was to see to it that every community is adequately protected by proper public health measures and to cooperate wholeheartedly with the local health officers in enforcing these preventive measures.

Perhaps the next effort was not within the scope of the Vice-President's constituted duties, but having tired of hearing and reading so much about how the welfare group was being inadequately serviced by the medical profession, it was decided to take a look-see into the situation. This was done by sending the director of every County Welfare Department in the Northwestern Division a questionnaire seeking information on a dozen items, such as the number of people on their rolls, the number ill and amount spent for such illness per annum, the amounts in the budget for hospitalization, what arrangements they had for doctor and hospital services, the trends in size of load, and the temper of relationship existing between them and the doctors in their counties.

From their answers it was learned that except for only the largest counties, no arrangements whatsoever exist whereby their people could be assured of medical care when needed; nor were there any funds, as such, to take care of the service when rendered. There were no records that would reveal anything about the amount or cost of services they had gotten in the past or might need in the future. The cost of medical care is not considered a basic or necessary item in their budgets. The thing that was rather difficult to understand was why the load of every county had increased very greatly with each passing year. All reported good relationship between the doctors and their departments. All expressed appreciation for the services rendered their clients when needed. All indicated a willingness and desire to sit down with the medical profession and try to work out some satisfactory method of better services for this group. One such procedure has been set up and is now operating in Cullman County.

After completing this much of the correspondence a series of personal visits were made into every county. Many of them were at the time of the society's regular meeting which showed good attendance, excellent fellowship and instructive scientific discussions. At most of these meetings new, young doctors were being admitted. In counties which have no regular meeting dates the visits were made at the offices, hospitals, and other places where the men might be found. Many of these doctors have given long, unselfish, and an up-to-the-day standard of service. They have laid the foundation on which the younger fellows replacing them should erect a more modern and efficient medical structure.

By this time the last avenue of approach was shaping up. Many counties in the district expressed a desire to entertain the district meeting, including my own county, which was chosen.

October 21 and 3:00 P. M. at the American Legion Hall in Cullman, Alabama, were chosen as time and place for this meeting. It was decided to have the scientific activities first with dinner and social hour to follow. In addition to a general invitation sent out by Dr. Cannon, State Secretary, to every doctor in the district, the Vice-President sent follow-up personalized invitations to all local county presidents and to every Counsellor urging them to come to this meeting and help make it more profitable. The theme of the program was prompted by the fact of this being a day when the profession is turning its attention to public relations. The subjects of the program were suggested because they deal with that segment of society which is the best soil for producing the greatest results in our efforts. The personalities on the program were chosen because of their scientific attainments, professional attitudes and scholarly mannerisms. The sequence of the program was as follows:

1. The Public Relations Program in Alabama—
Dr. C. A. Grote, Huntsville.
Mr. W. A. Dozier, Montgomery.
2. Public Relations and Obstetrics—
Dr. Tom Boulware, Birmingham.
3. Public Relations and Pediatrics—
Dr. Wallace Clyde, Birmingham.
4. Public Relations and Hysterectomy—
Dr. W. Nicholson Jones, Birmingham.
5. Greeting From The State At Large—
Dr. Paul Jones, President, Camden.

Every man on this program and those taking part in the general discussion did an excellent job in making every one present more aware of the part he should play in rendering the kind of service the public will have to regard with proper appreciation.

The attendance at this meeting was somewhat disappointing from the standpoint of number present; however, one can not determine results of one's efforts altogether by the size of the crowd. All seemed to have a good time and the host society greatly appreciated the honor of this occasion.

This about concluded the schedule as laid out in the beginning until in November, when another letter was sent to all presidents of the district thanking them for their cooperation during the year and reminding them not to forget the annual meeting in December at which time officers for the next year should be elected.

This, gentlemen, is humbly and respectfully submitted as the annual report of the Vice-President from the Northwestern Division, Medical Association of the State of Alabama.

The President, having been presented by Dr. Carl A. Grote of Huntsville, delivered the following message.

Message of the President

Members of the Medical Association of the State of Alabama, Ladies and Guests:

The Association is grateful to its host, the Montgomery County Medical Society, for its in-

vation to hold this annual meeting in the Capital City. We appreciate very much the preparation and entertainment arranged for us. It is always a pleasure to return to Montgomery and renew the friendships we have made in past years.

First, let me express my thanks and appreciation for the great honor you have conferred on me; as the last member of a family that has contributed members to this Association since its organization, I have always had a deep love and affection for our profession. I have enjoyed the opportunity to serve you during the past year. A sense of being unworthy of the honor has spurred me on to accomplish as much as possible with the few abilities I possess. Whatever we have been able to attain has come as a result of team-work and the active and loyal support of many members of this Association who have been willing and anxious on all occasions to do anything asked of them. My one regret is that time does not permit me to call each of them by name.

The responsibilities, duties and, may I say, opportunity for service by the President to the Association become greater every year. More and more, as time passes, the office of President should grow in stature. Faced with demands by Congress and the public to develop an adequate program of medical care, it seems to me it would be to our advantage to amend the Constitution of the Association so as to provide for a president-elect. This would assure us that any program we have in mind would not suffer, as it does now, from a definite lack of knowledge on the part of the incoming President.

With a great deal of regret, I have to inform you that we will no longer have the services of Drs. Noland and Walker as our Delegates to the American Medical Association. Dr. Walker's term expired December 31, 1948 and Dr. Noland's will end on December 31 of this year. These men have really done an outstanding service to both the Alabama and American Medical Associations during their services in the House of Delegates.

It would be well to call to the attention of this Association the faithful and loyal service of Drs. J. O. Morgan, J. G. Daves, B. W. McNease, and Carl Grote as members of the Alabama Hospital Service Corporation. Drs. B. W. McNease and Douglas Cannon have attended many A. M. A. committee meetings as representatives from Alabama.

Mention should be made that Dr. Frank Chennault of Decatur was selected as the outstanding General Practitioner in Alabama for the year 1948.

The assistance of our invaluable Secretary, Dr. Douglas Cannon, in the preparation of this program, and his excellent advice and wisdom have been of great aid to your President during the past year. I cannot let this occasion pass without expressing to him my thanks and wholehearted love and respect.

During my tenure as President, I have made the following appointments: Dr. B. W. McNease to serve on the Board of Censors until this annual meeting of the Association, replacing Dr. K. A. Mayer, deceased; Dr. Carl Grote as Delegate for two years to the American Medical Association, and Dr. George A. Denison as his alternate, their terms to expire December 31, 1950. Committee appointments have appeared in the report of the Secretary.

An Academy of General Practice has been formed in Alabama. It is the hope of your President that this state can and will develop a strong and worth-while Academy, composed of general practitioners of well known ability. The idea of recognition of the value of general practice is good, and the purpose of postgraduate study for the general practitioner is worthy and necessary. Your President hopes that joint-county postgraduate study groups will be formed in all sections of Alabama, as is being done by ten counties in the Southwestern Division. If our Vice-Presidents could work with the Medical College of Alabama in developing this type of postgraduate education for rural doctors, we would be taking a step in the right direction.

Our Vice-Presidents, Drs. W. R. Carter, Frank Jordan, E. L. Gibson and J. G. Daves, have been very active this year. Well attended meetings, with excellent programs have been held in each division. These men have also served enthusiastically on the Association's Medical Service and Public Relations Committee and in the Health and Medical Care Council of Alabama. We are to be congratulated on the high type of men we have as Vice-Presidents.

As your President, I have traveled all over the state, attending divisional and county meetings in Gadsden, Jasper, Birmingham, Cullman, Marion, Selma, Monroeville and Mobile. As your representative, I attended the meeting of the Gulf Coast Clinical Society in Biloxi, attended several gatherings of the American Medical Association in Chicago, and many meetings of the Committee on Rural Medical Service in Chicago and Washington. Also representing this Association your President has worked with other professional and lay groups in developing the Annual Conference of the Alabama Health and Medical Care Council, held in February in Birmingham. We can report that through the council we have made definite progress in securing the cooperation of professional and lay groups in developing a joint approach to our medical service needs. By all means, this contact should be continued by the Medical Service and Public Relations Committee.

You have heard the reports of the officers and committees. These reports speak for themselves, and show that, on the whole, the committees have given much time and study to their problems and duties. One can quickly see that they are active, interested, willing and anxious to do the best job possible. The reports are worthy of careful consideration by this Association. As your President, I should like to express our thanks to the

committeemen for their interest and loyal services.

The excellent report of the Committee on Maternal and Child Health brings to our attention deplorable conditions in maternal care in some localities, and clearly shows that something should be done to rectify them. Of course, one cannot change over night the habits and customs in certain areas, but, if prenatal clinics have proven their value, some system of obstetrical attention could be worked out for the counties involved. I am inclined to work through the doctors in these counties, providing subsidies for adequate care, if necessary, rather than to run the risk of increasing the trend towards socialization of medicine by placing salaried personnel in rural areas.

In his report as Chairman of the Committee on Medical Service and Public Relations, Dr. Grote has told you about the work of his group and its recommendations. This Committee has done an outstanding job through its Chairman and the Director of Public Relations, Mr. W. A. Dozier, Jr., in awakening both the medical profession and the citizens of Alabama to their individual responsibilities in the desperate situation facing us. The committee has been quite active in enlisting the support of many other groups in our fight against compulsory health insurance. With a small amount of money and in a relatively short period of time, the Medical Service and Public Relations Committee has done as much as any other state, and more than many states, in public relations work. However, this fight cannot be waged by the committee alone. Unless the individual doctor and the several County Medical Societies become interested in their destinies and active in their defense, the efforts of the committee will fail. As a profession, we have been too busy and too self centered to realize that times are changing. We are fighting what appears to be a trend of the times and a change in the thinking and living conditions of our people. Family-group responsibility is disappearing, as evidenced by large increases in welfare, old age assistance and pension expenditures. As this family-group responsibility lessens, a feeling of insecurity appears, causing a demand for free medical and hospital care.

We appear to be losing also the fund of good will and respect built up for us in previous years by the family doctor. Too many doctors have been unwilling or too busy to realize that now, as never before, we must take stock of our faults, and in some way clear up the causes of criticism of the medical profession; such as excessive fees, over specialization, inability of people to get a doctor at night, the high cost of catastrophic illness, too few doctors taking an active part in community activities, and the scarcity of doctors, dentists and nurses.

The Medical Service and Public Relations Committee, the Health and Medical Care Council and your President have held many meetings during the past year discussing Alabama's medical care needs. From these conferences have come cer-

tain suggestions that I present for your consideration as a program for the Medical Association of the State of Alabama to sponsor, both in the Legislature and before the public.

1. An effort should be made to procure through the State Legislature specific appropriations for hospital construction, especially in areas of need, thereby enabling counties to utilize funds available under the Hill-Burton Act.

2. There should be an extension of prepayment insurance as rapidly as possible to all citizens. Careful consideration should be given to plans of extending this type of insurance to indigent and low income groups. The time is at hand when plans for extension of medical care must be considered for portions of the population that cannot provide such care for themselves, either directly or through voluntary prepayment insurance. There are strong indications that, sooner or later, state and local governing bodies must assume this responsibility. The time will certainly be at hand should the Federal Government make grants-in-aid for this purpose.

3. There is great need for an increase in medical, dental and nursing school facilities, in order that a greater number of physicians, dentists and nurses may be graduated. More funds should be sought for Negro education, with especial emphasis being placed on medicine, dentistry, and nursing. It is realized that for the attainment of these goals a vastly larger appropriation than that now in effect will have to be made. Scholarships should be sought for all schools, and probably a change in the method of awarding scholarships, perhaps by the creation of a central committee to make awards from the state at large, rather than by counties as at present, should be considered.

4. Careful thought needs to be given to the need of licensing and regulating hospitals, clinics and nursing homes for the purpose of improving the medical staffs, hospital and clinic facilities and services. The Alabama Hospital Association in the Legislature of 1947 tried to accomplish something in this direction but the bill in which it was interested died on the calendar of the House. Interest in the subject on the part of this Association might be of avail in the Legislature of 1949.

5. Our cancer and tuberculosis campaigns should be brought at least to the national level. At present we are on the bottom in cancer and tuberculosis work.

6. The Legislature should be informed of the inadequacy of appropriations from the State Treasury for the general purposes of the State Department of Health, which is making it impossible for the State Health Officer to employ sufficient medical personnel to discharge fully the responsibilities of his organization; or to compensate, reasonably, personnel of all classes now employed.

I hope that by the time this paper is read the threat of compulsory health insurance will have waned. However, if we take for granted that we have won the fight and become complacent,

we will find that the threat will rise again. Now, as never before, we are faced with a challenge to appreciate the duties, accept the responsibilities we have assumed as a profession in Alabama, and endeavor to work out a definite program.

The administration in Washington is pledged to some form of compulsory health insurance. In this, it has the support of a broad segment of our population who favor a plan which will help defray the high cost of serious and chronic illness without sacrificing the right to choose their own physician, or interfere with the present close physician-patient relationship. Most of the people are satisfied with the quality of existing medical services—but not with its distribution or cost. Aid for the medically indigent of this country is a direct responsibility of Government, provided established democratic principles are preserved. But, in aiding the under privileged and unfortunate, we must not deprive self supporting Americans of freedom of choice in matters of health, or physicians of their initiative and responsibility within the present framework of medical practice.

The threat to the free practice of medicine in this country, posed by the advocates of compulsory health insurance, is fast becoming critical, and still we refuse to unite in decisive action to meet it. My heart grows heavy as I see the indifference of many physicians to the threat to freedom in medicine that is becoming more menacing every day, and their willingness to criticize action taken by others in the general interest of the profession. If we get socialized medicine in this country, it will be due largely to the indifference of the individual doctor and his medical society.

Do not be lulled into a sense of security by such able reports as the Brookings' report or the actions of the American Medical Association. Of course, every thinking person is convinced that socialized medicine would be a great mistake, and a costly one—both in money and in health. However, this fight will not be decided by wisdom, but entirely by emotion. Only a small minority of our people realize the dangers of socialized medicine; all they know is that they want everyone to have good medical care, and they are not capable of choosing between the various ways in which medical care can be better distributed. If you could have listened to the deliberations of the Section on Medical Care of the National Health Assembly, you would have come away deeply impressed with the strength and determination of the groups committed to compulsory health insurance. You would also have come away convinced that the threat to free medical practice, as we know it, is acute.

Do not be misled by statements that the government cannot make you practice medicine if you do not want to. You all know what happened and is happening in England. How long can you hold out in a strike against the Government?

Can you stick it out when you see your friends needing medical care, or a minority group doing the job you should be doing? How many of you

would be willing to forget the obligations of your profession? How many of you would be willing to quit medicine and embark on a new profession? Do not fool yourself; if compulsory health insurance comes, we will be forced by circumstances to accept it.

The only way you can prevent this tragedy is to stop it before it becomes a fact, for once it comes we will never be able to undo it as we did the Prohibition Amendment. The medical profession can prevent this tragedy to a great extent by positive action that will meet the reasonable demands of that large segment of the people who are dissatisfied with the present cost of medical care and its inadequate distribution.

One cannot help wondering what building stones will be used for the future house of medicine, stones being shaped by unseen master minds. Will the old, sound foundations be allowed to stand or will even these be destroyed? If a new building is to be erected, it should be our fervent hope that its cornerstone will be Freedom—freedom of the patient to choose his physician, and freedom of the physician to select and treat his patient as he has selected and treated them for all these years.

Senator Lister Hill has introduced a proposal to the National Congress known as the Voluntary Health Insurance Plan. May I recommend your consideration of this proposal at this Annual Session, and in so doing may I call your attention to a statement made by Senator Hill on the introduction of this plan.

He said: "We believe that the present system of medical care has been too valuable, too effective and too useful through the years, to throw it aside for a new system which might not work. We believe it is the course of wisdom first to examine our existing health and hospital and medical resources, then to proceed with the building and strengthening of them where that is necessary to bring adequate health care to all the people.

The last thing we want in this country is an abundance of poor hospitals and poor medical care. Our existing system has produced a quality of care which is the equal of any that has been developed anywhere in the world. The reason it has grown—and continues to grow—is that it has grown naturally. You cannot build a tree. Our problem is to take our existing system and continue to make it bigger and better."

In closing, I wish again to express my appreciation of the opportunity given me to serve you this past year, and my love and respect for all the doctors and individuals who have done so much to make the experience an outstanding event in my life. My chief regret is that I have been able to accomplish so little when so much is needed.

Scientific Program

Dr. J. O. Finney, Gadsden, read a paper entitled Rheumatoid Arthritis of the Spine.

Dr. Earle Drennen, Birmingham, discussed Surgery of the Colon with Special Reference to End to End Anastomosis.

Miscellaneous Business

Resolution relating to method of voting on applications for membership in a County Medical Society, introduced by Dr. Seale Harris, Birmingham, was referred to the State Board of Censors.

Dr. Arthur Mazyck, Dothan, acquainted the Association with the intention of the Committee on Medical Service and Public Relations to sponsor two bills in the approaching session of the Legislature, if approved by the Association: (1) To amend the Workmen's Compensation Law which limits the hospital and medical care expense of injured employees to \$200.00; (2) To provide a lien for medical and surgical treatment and hospital care of persons injured in any accident as a result of the negligence of any other person or corporation.

Afternoon Session, Tuesday, April 19

2:00 P. M.

Dr. Ernest H. Planck, Anniston, described An Easy Way to Treat Diabetic Patients.

Admissions to the Medical College of Alabama was the subject of the paper presented by Dr. Stuart Graves, Tuscaloosa, and it was discussed by Dr. Roy R. Kracke, Birmingham.

Dr. J. O. Morgan, Gadsden, outlined the Treatment of Malignant Melanoma, and his presentation was discussed by Dr. Stuart Graves.

Dr. C. Kermit Pitt, Decatur, read a paper entitled The Art and Science of the Artificial Feeding of Infants.

The last paper of the afternoon session was given by Dr. Samuel W. Windham, Dothan, on The "Third Era" of Surgery of the Biliary Tract.

Evening Session, Tuesday, April 19

8:00 P. M.

The More Common Rectal Conditions were discussed by Dr. W. J. Rosser, Birmingham.

The joint contribution of Drs. Alston Callahan and Arthur F. Steinmetz, Eye Diseases Causing Blindness in the State of Alabama, was read by Dr. Steinmetz and discussed by Dr. Callahan.

Surgery of the Stomach and Duodenum at St. Margaret's Hospital, Montgomery, During 1946, 1947 and 1948 was the subject of the paper presented by Dr. Luther Hill, Montgomery.

Dr. H. R. Cogburn, Mobile, closed the evening's program with a discussion of The Sulfonamides in Dermatology.

Second Day

Wednesday Morning, April 20

9:00 A. M.

Dr. Earle Conwell, Birmingham, read a paper entitled Poliomyelitis: Observation, Treatment and Follow-Up, Localized Epidemics, 1937 and 1941.

The Diagnosis of Intracranial Tumors in Childhood was discussed by Dr. Douglas Buchanan, Professor of Neurology and Pediatrics, School of Medicine, University of Chicago, and Neurologist of the Children's Memorial Hospital.

The Jerome Cochran Lecture was delivered by Dr. Max Thorek, Secretary General, International College of Surgeons, Chicago, his subject being Cholecystectomy: Its Technical Variations.

President Paul Jones awarded certificates of distinction to the following physicians of Alabama who had been practicing their profession for 50 years.

THE FIFTY YEAR CLUB

CLASS OF 1949

Berry, Wm. Thompson	McConnico, Frank H.
England, John Tillman	McLester, James S.
Fields, Elbert T.	Meharg, William G.
Green, Elbert Pierce	Noel, William E.
Hollingsworth, Pryor L.	Stansberry, Chas. Lee
Hopkins, Percy I.	Thompson, Charleton
Jackson, John A.	Townsend, Alfred L.
Lull, Cabot	Underwood, Andrew J.
Martin, Thomas M.	Watkins, Martin L.
Mason, James Monroe	Whorton, William W.

Certificates were awarded posthumously to the families of Drs. T. P. Abernathy and F. A. Lupton, who died a few days before the annual session of the Association.

Miscellaneous Business

The Secretary of the Association announced vacancies as follows in the College of Counsellors:

Vacancies that will present in the College of Counsellors at this meeting are as follows and for the reasons set forth:

1st Congressional District—4. Dr. G. G. Oswalt is to be elevated to Life Counsellor. Dr. J. M. Weldon's second term of seven years has expired. The first terms of seven years of Drs. W. J. Barber and G. O. Segrest have expired.

2nd Congressional District—2. Dr. C. K. Weil is deceased. Dr. C. G. Godard's first term has expired.

3rd Congressional District—2. The second terms of Drs. V. J. Thacker and J. S. Tillman have expired.

5th Congressional District—2. The second terms of Drs. W. H. Riser and B. C. Scarbrough have expired.

7th Congressional District—1. Dr. D. H. Wright is deceased.

8th Congressional District—2. The second terms of Drs. Erskine Chenault and Rayford Hodges have expired.

9th Congressional District—5. Dr. Lloyd Noland is to be elevated to Life Counsellor. The first terms of Drs. C. N. Carraway, H. Earle Conwell, John W. Simpson and Frank C. Wilson have expired.

**Afternoon Session, Wednesday, April 20
2:00 P. M.**

Dr. Clarence R. Bennett, Eufaula, discussed Vitamin Deficiencies as Seen in General Practice.

Dr. Roy H. Turner, Associate Professor of Medicine, Tulane University School of Medicine, New Orleans, related Some Diffi-

culties in Diagnosis Resulting from Specific Therapy.

Dr. Lawrence Reynolds, Wayne University College of Medicine, Detroit, read a paper entitled Bronchogenic Carcinoma.

Dr. William T. Kennedy, New York, presented a paper with the subject How Can the Damages of the Second Stage of Labor Be Minimized, and When Can the Resulting Damages Best Be Repaired?

**Wednesday Evening, April 20
8:00 P. M.**

Mr. John B. Turner, Division Manager, Alabama Division, Arkansas Fuel Oil Company, Birmingham, discussed The Doctor as a Citizen.

Mr. W. A. Dozier, Jr., the Association's Director of Public Relations, related The Profession's Plans in the Field of Public Relations.

Dr. George F. Lull, Secretary and General Manager of the American Medical Association, Chicago, discussed the Association's national health education plans in connection with medical care proposals.

The Montgomery County Medical Society entertained at a reception and dance in the Blue and Gray Room of the Whitley Hotel.

(To be concluded in the June Journal)

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

D. G. Gill, M. D.
State Health Officer

APPENDICITIS

Diseases, generally speaking, may be divided into two classifications. They are the dramatic and the undramatic. A heart attack is full of drama. (Often it is full of tragedy too.) So is an attack of indigestion. So is pneumonia. So is influenza. The undramatic forms of illness include such conditions as hookworm, the bad cold, anemia, chronic kidney disease, pellagra and malnutrition. The one kind calls for—and usually gets—immediate attention. It runs its course swiftly, and the patient either dies or recovers in a short time. The other kind may not attract much attention, or any attention at all for a long, long time. When

that kind begins to make itself felt, it does so slowly. Its victims may never die of it. But they will never know complete good health until they receive proper treatment or the natural body forces bring recovery.

Acute appendicitis belongs definitely to the dramatic class. It is not weeks or months in developing. When it strikes, it usually strikes hard. The pain it causes is so severe that the victim could not ignore it if he wanted to. Many years of fear of the disease have made most of us apprehensive when we think there is a probability that we have it. And appendicitis is dramatic in another way. There is a world of drama in many of the measures taken to prevent it from proving fatal.

You may recall such a case in the closing months of the Second World War. An

American lieutenant had long been looking forward eagerly to a flight, with his buddies, to Russia. Just before they were to take off for the long and somewhat hazardous jump, he began experiencing a severe pain in his side. He had heard and read a great deal about this disease. And what he had learned about it made him think pretty strongly that those abdominal pains meant appendicitis. The wise thing for him to do would have been to report his condition to his medical officer and obtain a diagnosis. But that flight, he felt, would be the experience of a lifetime. And he was pretty certain that the doctor would order him to stay behind if he should be found really to have appendicitis. So he decided to take a chance. He kept cheerful and concealed from his comrades those pains that were stabbing at him in "the appendicitis region." He went through the briefing with the proverbial stiff upper lip. Then he climbed into his plane and took off. At the end of his mission, he and most of the others landed safely in Russia. At last he felt free to let out his secret. In a short time he was rushed to an American hospital. An emergency operation was performed. It was successful—that must have been one of his lucky days—and soon he began recuperating.

Another dramatic wartime story came out of the war with Japan. A sailor in an American submarine developed appendicitis in the far Pacific. Naturally, such a small vessel does not carry much in the way of medical personnel. But its pharmacist's mate offered to undertake the operation. He had not performed one of this kind, or indeed of any kind, in his life. But, if memory serves, he had done some reading on the subject or perhaps had observed while a surgeon removed an appendix. At any rate, this seemed to be a case of letting an inexperienced performer operate, or else. So the permission was given. The submerged vessel was kept as steady as possible, and he went to work while his patient lay on a table. That must have been that sailor's lucky day. At any rate, the operation was successful, and he recovered.

Another victim of appendicitis who had a narrow escape from death is described by the United States Public Health Service in one of its health information bulletins. Presumably,

he was not a single person but a composite of many persons with one fault in common. That was the fault of not taking the appendicitis danger seriously enough. The Public Health Service writer gave him a descriptive name, Leonard Longshot.

Leonard woke up one morning with a terrific pain in the stomach. But he did not pay a great deal of attention to it. Presumably, he did not think it meant appendicitis, or anything else of much importance. So he did not call a physician. Instead, he poured out a big, whopping dose of castor oil and downed it. Then he located the hot water bottle, filled it and went back to bed with it on the painful part of his stomach. But he soon found that was the very worst thing he could have done—taking that strong laxative, that is. The pain did not get any better. And Leonard got worse. After a while he had to call a doctor. The doctor saw he was in imminent danger of a ruptured appendix and peritonitis. There was a rush call for an ambulance and a rush to the hospital for an emergency operation. Fortunately, Leonard's long-shot chance-taking did not cost him his life. But it came close to doing so. For a good long time there was considerable doubt as to the outcome, and he had to spend weeks in convalescence. He was away from his job for about two months.

Appendicitis is caused by inflammation of the vermiform appendix. This is a part of the large intestine or colon. It is situated in the lower right-hand corner of the abdomen. In size, and also in shape, it might be compared to a fish worm.

This form of illness has been recognized as a distinct disease entity for a century or longer. However, its cure by the surgical removal of the inflamed appendix had to wait for the discovery and general use of anesthesia and aseptic surgery. For abdominal surgery, this kind or any other kind, was extremely dangerous. In those pre-anesthesia days, the shock and pain of such an operation were almost certain to bring death. At least the victim's chances of survival were not materially improved by resorting to surgery under such conditions.

Inflammation of the appendix is similar to other types of inflammation. The appendix becomes greatly enlarged. It turns red. It produces fever. And of course if causes

great pain. Like the pain suffered from inflammation of the neck, leg or some other part of the body, that due to inflammation of the appendix is more severe because the involved area is in motion. Unfortunately for the appendicitis victim, he cannot ease that pain substantially by reducing motion of that area to a minimum or stop it entirely. The intestines do not function in that way. They function automatically. Even the most strong-willed of us cannot affect their motion as we may affect the motion of a wrist or neck containing a boil. However, man receives a measure of assistance from Mother Nature. The intestines try to do what man himself cannot do: They try to stop, or at least greatly reduce, their normal functioning. That is what happens when the average appendicitis patient becomes constipated.

Parents need to be warned against a false feeling of safety regarding their children. Many of them do not consider this disease anything to worry about, or pay much attention to, until their boys or girls grow up. The vital statistics reports for Alabama and for the United States as a whole show how dangerous this assumption really is. They show that it occurs among those quite young. It kills them too. No doubt its toll is increased by parents' failure to understand how serious this danger is. That failure causes them to delay calling their physicians until priceless hours or even days have passed.

"Some time ago," a surgeon said, "I operated on a little girl four years old who had been sick two or three days with abdominal pain, nausea and vomiting. She had not been able to retain anything in her stomach for 48 hours."

He went on:

"The mother of the child called the family physician at the end of this time with the idea of getting advice over the telephone with reference to her treatment. Her doctor felt sure from the mother's description of the condition that it was a ruptured appendix. The child was operated upon as soon as she could reach the hospital. She had a ruptured appendix and extensive peritonitis and died a few days after the operation."

That pain in the abdomen might almost be called the trade mark of appendicitis. It

is regarded as the symptom of this disease to be on the lookout for. It is associated with it in many people's minds as firmly as a cough is associated with tuberculosis. For that reason, it might be well to voice a warning: Do not think you do not have appendicitis because you do not have that abdominal pain. Actually, you can have appendicitis, and die of it, without having pain of that kind.

This was shown by a study conducted some years ago. Sixteen per cent of the appendicitis patients covered in that study experienced no unusual abdominal pain. The study also threw light upon another important phase of the appendicitis problem: It proved that, contrary to a widely held belief, the pain produced by this disease is not always confined to the lower right side of the abdomen. In only about half of the cases studied was it first localized there. However, it was shown that abdominal pain experienced elsewhere at first usually moved to "the appendicitis region" within 36 to 48 hours. It is hardly necessary to say that those 36 to 48 hours are all-important. They may mean the difference between recovery and death. If you ever experience pains in other parts of the abdomen and have other reason to think you may have appendicitis, do not wait for them to be felt in the usual place. Get in touch with your physician at once.

If its evidence is available, fever is a much more reliable symptom of appendicitis than abdominal pain. However, very few people take their temperature unless they have some reason to think there is something wrong with them. It is wise, therefore, to do so after experiencing abdominal pain. If it is abnormally high, you should assume temporarily that you have appendicitis until a doctor can be summoned. That means: no laxatives.

Different appendicitis patients have different amounts of fever. Few adults with this disease have temperatures under 100 degrees Fahrenheit, however. In few, on the other hand, does it go higher than 102 degrees. With children the temperature reaction is different: They occasionally have thermometer readings as high as 103.5 degrees Fahrenheit.

Let us consider briefly some of the other symptoms of appendicitis: There is usually

a sharp increase in the pulse rate. Often there is nausea, with a strong inclination to vomit. The tongue is usually coated and moist. And, as already indicated, adult patients usually experience constipation. (Rather strangely, children may have diarrhea.)

Diagnosed and treated early, appendicitis is not a dangerous disease. The mortality of all surgically treated cases is said to be only about one half of one per cent. If every case could be treated in that way immediately after its onset, appendicitis deaths would virtually end.

Thus, whether you succumb to appendicitis or recover fairly quickly is largely up to you. Be on the watchout for its warning signs. Act promptly when they appear. Give yourself and your doctor the benefit of any doubt you may feel about having it. Do your part to reduce its killing power.

BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

CURRENT MORBIDITY STATISTICS

1949

	Jan.	Feb.	E. E.* Feb.
Typhoid	2	1	4
Typhus	8	9	20
Malaria	4	5	49
Smallpox	0	0	1
Measles	1570	2012	346
Scarlet fever	75	64	71
Whooping cough	80	28	81
Diphtheria	55	26	33
Influenza	397	414	2156
Mumps	178	160	206
Poliomyelitis	9	3	2
Encephalitis	0	0	1
Chickenpox	467	369	132
Tetanus	0	1	2
Tuberculosis	259	200	182
Pellagra	2	1	2
Meningitis	2	12	16
Pneumonia	256	341	525
Syphilis	633	537	1493
Chancroid	6	6	15
Gonorrhea	533	364	483
Tularemia	2	3	1
Undulant fever	11	2	2
Amebic dysentery	2	2	2
Cancer	317	225	0
Rabies—Human cases	0	0	0
Positive animal heads	31	30	0

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

Exposure to fumes and gases could not be proved to favor the onset of tuberculosis; neither lead absorption and intoxication, nor mill dust and foundry employment are associated with the development of tuberculosis. High temperatures and humidity are without significant influence upon tuberculosis, nor are any theoretical reasons advanced to the effect that they should be. Radiant heat in the steel industry causes no tuberculosis in those exposed. *Rutherford T. Johnstone, Am. Rev. Tuberc., Oct. 1948.*

BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH STATISTICS FOR FEBRUARY 1949, AND COMPARATIVE RATES

Live Births, Stillbirths, and Deaths by Cause	Number Registered During February 1949			February Rates* (Annual Basis)		
	Total	White	Colored	1949	1948	1947
Total live births	6766	4147	2619	28.8	29.2	30.7
Total stillbirths	184	**	**	26.5	24.4	28.1
Deaths (stillbirths excluded)	1982	1135	847	8.4	9.6	8.9
Infant deaths:						
under one year	230	112	118	34.0	41.9	38.4
under one month	137	72	65	20.2	24.3	22.6
Cause of Death						
Tuberculosis 001-019	87	48	30	37.0	29.4	40.8
Syphilis 020-029	11	2	9	4.7	11.2	11.2
Typhoid fever 040, 041						0.4
Dysentery 045-048	3	3		1.3	***	***
Diphtheria 055					1.7	0.4
Whooping cough 056	5	1	4	2.1	2.1	3.9
Meningococcal infections 057	2	1	1	0.8	1.2	
Poliomyelitis 080, 081						0.4
Measles 085	6	5	1	2.5	0.4	
Malaria 110-117	1		1	0.4	0.4	
Malignant neoplasms 140-200, 202, 203	168	126	42	71.4	78.4	73.9
Diabetes mellitus 260	18	15	3	7.6	11.6	13.3
Pellagra 281	4	4		1.7	4.6	2.1
Vascular lesions of central nervous system 330-334	207	107	100	88.0	88.4	81.6
Other diseases of nervous system 300-318, 340-398	41	26	15	17.4	15.3	***
Rheumatic fever 400-402	4		4	1.7	1.2	***
Diseases of the heart 410-443	607	366	241	257.9	236.0	196.3
Diseases of the arteries 450-456	28	15	13	11.9	9.5	11.2
Other diseases of circulatory system 444-447, 460-468	44	26	18	18.7	2.9	***
Influenza 480-483	19	8	11	8.1	20.7	16.3
Pneumonia 490-493	83	41	42	35.3	71.8	52.8
Bronchitis 500-502	9	4	5	3.8	2.9	2.6
Appendicitis 550-553	5	2	3	2.1	3.3	5.2
Intestinal obstruction and hernia 560, 561, 570	12	7	5	5.1	5.4	6.0
Gastro-enteritis and colitis (under 2) 571.0, 764	10	3	7	4.2	3.3	3.0
Cirrhosis of the liver 581	11	7	4	4.7	5.4	3.0
Diseases of pregnancy and childbirth 640-689	6	2	4	8.6	19.4	20.4
Sepsis of pregnancy and childbirth 640, 641, 645.1, 651, 681, 682, 684					5.5	5.4
Congenital malformations 750-759	20	14	6	3.0	3.1	***
Accidental deaths, total 800-962	108	65	43	45.9	66.8	60.6
Motor vehicle accidents 810-835, 960	28	19	9	11.9	24.1	20.2
All other defined causes	341	199	142	144.9	189.6	21.7
Ill-defined and unknown causes 780-793, 795	122	38	84	51.8	80.5	83.4

*Birth and death rates per 1,000 population; stillbirths per 1,000 total births (stillbirths included); infant deaths per 1,000 live births; specific causes per 100,000 population; deaths from puerperal causes per 10,000 total births. All rates are based upon the February report of the years specified.

**Not available or not comparable.

***Included in "All other defined causes."

†Excluding Hodgkin's disease (201), leukemia, aleukemia (204), and mycosis fungoides (205).

BUREAU OF LABORATORIES

H. P. Sawyer, M. D., Director

SPECIMENS EXAMINED

FEBRUARY 1949

Examination for diphtheria bacilli and Vincent's	297
Agglutination tests (typhoid, Brill's and undulant fever)	1,086
Typhoid cultures (blood, feces and urine)	434
Examinations for malaria	305
Examinations for intestinal parasites	3,787
Serologic tests for syphilis (blood and spinal fluid)	25,567
Darkfield examinations	20
Examinations for gonococci	2,239
Examinations for tubercle bacilli	2,674
Examinations for meningococci	1
Examinations for Negri bodies (microscopic)	96
Water examinations	1,290
Milk and dairy products examinations	4,225
Miscellaneous	388

Total 42,389

Special medical education loan programs to provide more general practitioners for rural areas in a number of states are in various stages of development, according to an article in the current issue of Hygeia, health magazine of the American Medical Association.

All are designed to provide loans to ambitious young men and women who want to become doctors and practice in rural areas where a crucial shortage of doctors exists.

Funds for the programs in Kentucky and Indiana are provided by the state medical societies. Financing the Illinois program is a cooperative venture of the Illinois State Medical Society and the Illinois Agricultural Association.

Programs in Alabama, Virginia, Mississippi, Georgia, and Arkansas were set up by the state. North Carolina's program is supported by the North Carolina Medical Care Commission, and South Carolina's is supported by the Medical College of South Carolina and the South Carolina State Board of Health.

BOOK ABSTRACTS AND REVIEWS

General Endocrinology. By C. Donnell Turner, Ph. D., Associate Professor of Zoology at Northwestern University. Cloth. Price, \$6.75. Pp. 604, with illustrations. Philadelphia & London: W. B. Saunders Company, 1948.

This book is written primarily for the academic student rather than the medical student or practicing physician. The subject matter is approached from an experimental rather than a clinical standpoint. Attention is directed to the operation of coordinatory mechanisms in plants, invertebrates and vertebrates; the human being has been chosen to illustrate the operation of biologic principles wherever possible. This book is not intended for the practicing physician but more for the premedical student.

Charles A. Willis, M. D.

Obstetric Analgesia and Anesthesia: Their Effects Upon Labor and the Child. By Franklin F. Snyder, M. D., Associate Professor of Obstetrics and Associate Professor of Anatomy, Harvard Medical School. Cloth. Price, \$6.50. Pp. 401, with 114 illustrations and 18 tables. Philadelphia and London: W. B. Saunders Company, 1949.

"The most hazardous experience of life is the escape from the uterine environment to the external world." This might well be the theme of this book and the author very meticulously points out the role that analgesia and anesthesia play in this critical period. The book is divided into two sections: the first on Respiratory Injuries of

the Child and the second on the Treatment of Pain During Labor.

The section on Respiratory Injuries to the Child makes this book unique in that it contains seven chapters and over two hundred pages devoted to the physiology, pharmacology and pathology of the child before birth, during labor and immediately after birth. The author, unsatisfied with the inaccuracies and incompleteness of clinical observation, turns to the laboratory to solve some of the factors concerned in fetal respiration which have been a matter of debate prior to his laboratory study on the subject. By hormonal inhibition of labor he has been able to study by direct observation the respiratory activities of full term fetuses in the uterine environment. He has shown definitely that the first breath occurs early in fetal life and not after birth. The respiratory responses to oxygen, carbon dioxide, drugs and labor are thus subject to carefully conducted experimental observation. There is an excellent chapter devoted to Intrauterine Pneumonia which is high lighted by a discussion of the role which early rupture of the membranes plays in its etiology. Chapters on Atelectasis, Asphyxia, and the Effects of Anesthetic Agents upon Mother and Fetus complete this section.

In the section of the book devoted to the Treatment of Pain During Labor the actions of the various agents and methods are reviewed in regard to their effectiveness in the relief of pain, their effect on the fetus and their effect upon labor. Morphine and its derivatives, scopolamine,

the barbiturates, rectal ether, paraldehyde, chloroform and the narcotic gases are all given consideration. The book is closed with a chapter on Local Anesthetics in which a brief discussion of caudal and spinal anesthesia is included.

The reading material of this book is supported by some one hundred and fourteen figures and eighteen tables and contains a very complete bibliography. Each chapter is summarized in such a way that its essentials may be quickly and completely reviewed. If, in evaluating this book, the complete title is taken into consideration, *Obstetric Analgesia and Anesthesia, Their Effects Upon Labor and the Child*, the book is thorough and complete. The section on Respiratory Injuries to the Child will make it valuable to the pediatrician as well as the obstetrician and anesthesiologist. However, those who are seeking knowledge as to how to bring about obstetric anesthesia and analgesia will find this book lacking in details of technique.

W. P. May, M. D.

Health Education. A Guide for Teachers and a Text for Teacher Education. Edited by Charles C. Wilson, M. D., Professor of Education and Public Health, Yale University. Fourth edition, completely rewritten. Cloth. Price, \$3.00. Pp. 413, illustrated. Washington; National Education Association of the United States, 1948.

Health education is an extraordinarily broad thing. Indeed, it includes just about the whole health field, from a country doctor advising a neighbor to have her child immunized against diphtheria to a sound truck bellowing keep-well slogans above the noise of city traffic.

The volume presently being considered covers a small but highly important aspect of this world-sized subject. It is devoted to the teaching of health in the schools. Health Education represents the joint labors of leaders in both the health and the education fields: the National Education Association and the American Medical Association. It is more directly a product of the Joint Committee on Health Problems in Education of these two important and influential groups. Anyone skimming lightly through its pages is re-impressed by the importance of health education in the educational scheme of things. The very chapter headings cry out: "See what a big part health knowledge plays in successful living throughout life!" From Chapter I ("Educating Children for Health") to Chapter IX ("Health Education in Action") the reader wanders along a multitude of paths leading to better health through better health knowledge.

Some of the information, much of it in fact, is less than startling to the person whose life work is public health or the practice of medicine. He already knows, for instance, that the general death rate has been dropping in recent years. It is not news to him that this decline has been especially marked in the rates for tuberculosis, typhoid fever and the communicable diseases generally. But there are many good, intelligent Americans who do not know that such declines

have taken place. There are many more who know that, as a group, man's major disease enemies are less formidable than they used to be but have no conception of the extent to which that is true. It is to such people that this fact-laden volume is primarily addressed. Its heavy cargo of health facts should prove extremely valuable to the school generation, through the nation's teachers.

There is also much information in this book that must be new even to those who have known health work intimately for years. There are, for example, suggestions regarding the use of audio-visual materials to spread health knowledge. There is advice about the use of dramatic presentations, field trips, exhibits, cartoons, posters, charts, maps and similar aids to the lifting of knowledge levels of school-age Americans.

This vein of valuable information does not have to be examined haphazardly. The knowledge-seeker finds in the well arranged index a short cut to any particular nugget for which he is looking.

The distinguished Joint Committee on Health Problems in Education and Dr. Wilson have done a distinguished job. It is to be hoped that the teachers and others using this fruit of their labors will make the fullest possible use of its resources.

John M. Gibson.

Grade schools and high schools must recognize the important place that mental hygiene occupies in health education, says an editorial by Morris Fishbein, M. D., Chicago, editor of *Hygeia*, health magazine of the American Medical Association, in the current issue.

The editorial follows in part:

Many estimates indicate that at least half the people of the United States have varying degrees of psychoneurosis and that perhaps as many as one third of these have disturbances serious enough to require medical consultation. No longer is neurosis a disease exclusively of the rich. No longer is it the more or less proud possession of statesmen, industrial tycoons, professional men and administrators.

Today nervous breakdown is observed among inhabitants of flophouses, in the overcrowded dwellings of the poor, and even in rural areas.

Many experts relate the increase in mental disturbance to the fact that people are living longer. Others insist that it reflects the intensified speed of human activities, and many assert that new techniques of diagnosis and observation, based on the dynamic psychologic approach initiated by Sigmund Freud, are uncovering a mass of mental disturbance that was heretofore unrecognized.

Some assert that the wars have resulted from the tension of modern civilization, and others assert that the tensions of modern civilization have been made worse by war.

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PRIMARY INTRACRANIAL TUMORS IN CHILDHOOD

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Two-thirds of the tumors which give clinical signs before puberty are situated below the tentorium. This is the reverse of what is found in adults. The only type of tumor which does not give signs or symptoms before puberty is the chromophobe adenoma of the pituitary. Meningiomas are less common and neuromas are much less common in children than in adults. The most common tumors of childhood are: (1) tumors of the cerebellar vermis, (2) tumors of the cerebellar hemisphere, (3) tumors of the fourth ventricle, (4) tumors of the pons and medulla, (5) gliomas of the optic chiasm, with or without neurofibromatosis, (6) suprasellar craniopharyngiomas, (7) gliomas of the hypothalamus, (8) tumors of the thalamus, (9) tumors of the pineal body and of the quadrigeminal plate, and (10) tumors of the cerebral hemispheres.

DIAGNOSIS

The most common symptom of an intracranial tumor in a child is vomiting. The most common sign is a positive Macewen's sign on percussion of the skull. Of all methods of examination of a child who has repeated vomiting the most simple is percussion of the skull. Although papilledema is the sign of increased intracranial pressure which is most frequently discussed, it is often absent until late, since the sutures of

a child's skull are capable of separation. It is for this same reason that headache is not a constant symptom of intracranial tumors in children. It is often said that both the headache and the vomiting which accompany an intracranial neoplasm in a child tend to occur in the early morning. Although this is sometimes true, it is not sufficiently constant to be of value in diagnosis. Since the majority of tumors in children occur in the posterior fossa, by far the most common clinical sign is unsteadiness in walking. Strabismus usually occurs late unless the neoplasm is a primary tumor of the pons. Most children who have both vomiting and unsteadiness which are not part of an acute feverish illness have an intracranial neoplasm below the tentorium. When such a history is given and the skull on percussion gives a cracked pot resonance, the diagnosis of intracranial tumor can be made quickly and simply. There are some neoplasms in which vomiting, unsteadiness, and a positive Macewen's sign do not occur, but when these signs are present the diagnosis in the end is almost always proved to be a primary intracranial tumor. The usual triad given for the presence of an intracranial tumor is that of headache, vomiting, and papilledema. In children, the proper triad is vomiting, unsteadiness, and a positive Macewen's sign.

It is strangely true that the majority of children who have an intracranial tumor are

emotionally quiet and unusually well behaved. This is so striking that physicians and nurses with some experience in this field are constantly aware of it. Such quietness of behavior is not usually a change which comes only with increase in pressure in the later stages of the illness, but is present even before any objective signs or any symptoms are established.

Since two-thirds of all the intracranial neoplasms in children are situated below the tentorium, the occurrence of convulsions of any kind is not common, and it is well known that the association of frequent major convulsions with evidence of increased intracranial pressure and ataxia of the trunk and legs is more often due to lead encephalopathy than to a tumor of the cerebellum or of the pons. Even lateralized or localized convulsions in a child do not have the significance which such attacks may have in adults. There are many children who have their first convulsion on one side of the body and who repeat this local signature in their first four or five attacks. A one-sided major attack is not a Jacksonian convulsion and is not presumptive evidence of an expanding lesion in the opposite cerebral hemisphere. In children, the diagnosis of intracranial tumor often is made incorrectly on a history of one-sided major convulsions, and surgical exploration under such circumstances usually fails to reveal a neoplasm. A convulsion, however, which has a true Jacksonian march from the periphery to the center of a limb or of the face is most often evidence of a local and expanding lesion in a child as in an adult.

SYMPTOMATOLOGY

The symptomatology of intracranial tumors naturally divides itself into those signs and symptoms referable to increase in the intracranial pressure and those due to disturbance of local function. In the axiom of Hughlings Jackson, destruction of any portion of the central nervous system cannot by itself produce a positive phenomenon but only evidence of lack of function. It is obvious, however, that destruction of any level of the central nervous system may release levels which are lower, and that these may give rise, in the simplest description, to new and positive signs.

LOCALIZING PHENOMENA

CEREBELLUM

Tumors of the cerebellum are divided into two main groups both clinically and pathologically, medulloblastomas of the cerebellar vermis and astrocytomas of the cerebellar hemispheres.

Tumors of the vermis have as their characteristic pattern ataxia of the trunk and of the legs with little ataxia or incoordination of the arms. This unsteadiness tends to vary in severity, each phase being of some weeks' duration. Although it may diminish some weeks after its first recognition, it seldom entirely disappears once it has been established.

With this unsteadiness there are the other appropriate signs of any cerebellar defect. The deep reflexes are reduced or absent, the knee jerks may be actually pendular in type, and there is a generalized hypotonia. Voluntary movements of the legs reveal both ataxia and incoordination. If the child is old enough to cooperate in a detailed examination, there is no evidence of any defect in the appreciation of vibration and no defect in the position sense in the toes. This at once establishes that the ataxia is cerebellar in type and not spinal. Tumors of the vermis are often without any evidence of nystagmus, and certainly the absence of nystagmus would not alone destroy such a diagnosis.

This type of tumor is most commonly found in children between the ages of 3 and 6 years, and seems more frequent in boys than in girls. This difference in incidence in the two sexes may, however, be more apparent than real.

Since the most common tumor in the vermis of the cerebellum is a malignant glioma, medulloblastoma, the clinical course before the diagnosis is established is usually only a few months. Any child between the age of 3 and 6 who has a history of repeated attacks of vomiting, who has no evidence or history of infection, who has unsteadiness in walking, and who has on percussion of the skull a positive Macewen's sign has a medulloblastoma of the cerebellar vermis until this diagnosis is disproved.

The localizing signs of neoplasms of the cerebellar hemisphere are hypotonia, ataxia, and incoordination in the ipsilateral extremities. A coarse and obvious nystagmus is

almost always present. This nystagmus is present on movement of the eyes both to the ipsilateral and to the contralateral sides. To the side of the lesion the nystagmus is slower and coarser in its range and rhythm. Hypotonia and ataxia may, like the nystagmus, be present on both sides of the body, but almost always it is obvious that this is much greater on one side than on the other, and such emphasis is on the side of the lesion.

Occasionally the ataxia, incoordination, and hypotonia of a cerebellar defect may be confused with the irregular movements of Sydenham's chorea. The ataxia of chorea is present even when the child tries to be at rest, but cerebellar ataxia is present only on attempts at voluntary movement. In chorea mollis, however, it is remarkable how closely the irregular movements can simulate a pure cerebellar ataxia.

TUMORS OF THE FOURTH VENTRICLE

Tumors of this cavity arise from the ependymal lining of the ventricle with the exception of the very rare papilloma of the choroid plexus or cysticercus cysts of the ventricular cavity. The most common tumors of the fourth ventricle are ependymomas. From their anatomical position, they tend to grow upwards into the cavity of the ventricle and for long periods may produce no signs or symptoms.

When they have enlarged sufficiently partially to obstruct the circulation of cerebrospinal fluid, appropriate symptoms and signs appear. The most common symptom is vomiting. The signs apart from those referable specifically to increase in intracranial pressure are those of unsteadiness, generalized hypotonia, and diminution of the deep reflexes. With this, there is some ataxia and incoordination, and the whole clinical picture is that of a lesion in the middle line of the posterior fossa. Nystagmus when present is usually fine, rapid, and equal in range to the two sides. Similarly, the ataxia and incoordination tend to be symmetrical and to be more severe in the trunk and in the legs than in the upper limbs. Tumors of the fourth ventricle, because of their nature and anatomical position, have periods of almost complete remission of both signs and symptoms. Further, because of their position on the floor

of the fourth ventricle, they, more frequently than any other tumors in the posterior fossa, are associated with episodes of cyanosis and of sudden changes in blood pressure. When such tumors have increased in size completely to block the circulation of the cerebrospinal fluid, bilateral spasticity appears. This produces the apparent neurological anomaly of cerebellar ataxia, incoordination, hypotonia, increased deep reflexes, and bilateral extensor plantar responses.

Since such tumors are usually not malignant, their clinical course is years instead of months.

TUMORS OF THE PONS AND MEDULLA

These tumors are unique in that they can produce most extensive defect in action of the cranial nerves and of the cerebellar and pyramidal systems without any evidence of papilledema or of increased intracranial pressure. They are most often infiltrating gliomas. For this reason they can cause most extensive destruction throughout the lower cranial nuclei and the adjacent pyramidal and cerebellar tracts before the pons is sufficiently increased in size partially or completely to block the circulation of fluid in the fourth ventricle. Since increased intracranial pressure may be long delayed, these tumors are often incorrectly diagnosed as examples of Sydenham's chorea or under the broad title of encephalitis. The most common initial signs are trunkal ataxia and weakness of outward movement of one eye. A defect in outward movement of either eye in the presence of papilledema is not a sign which is of value in localization but is only evidence of increased intracranial pressure. A defect in action of the sixth cranial nerve in the absence of papilledema is at once of value both in localization within the pons and in lateralization of the lesion. If this strabismus is soon accompanied by a peripheral facial palsy, almost always such signs are the first evidence of a glioma of the pons.

It is true that myasthenia gravis and that neurological curiosity ophthalmoplegic migraine do occur in children even under the age of 3 years, but it is usually not difficult to distinguish them from a tumor of the pons. Myasthenia gravis responds to prostigmine, and the ocular palsy associated with ophthalmoplegic migraine resolves in

a child, as in an adult, within a period of a few days. Irreversible and progressive involvement of the cranial nuclei without evidence of infection or of injury and with severe and increasing ataxia has usually only one diagnosis, that of tumor of the pons. With such a tumor, the first few months are passed without headache, vomiting, or papilledema.

Such tumors grow rapidly and soon after the first appearance of defect in the action of the cranial nerves gross unsteadiness and spasticity appear. The ataxia and incoordination which are associated with a neoplasm of the pons are usually most spectacular and are more severe than with a tumor of the vermis or the cerebellar hemisphere. With this ataxia there is generalized hypotonia, increase in the deep reflexes, and bilateral extensor plantar responses.

These tumors are very malignant and have a clinical course of only a few months before death ensues. They tend to occur in children between the age of 6 and 12 years and are apparently more common in girls than in boys.

A child between the age of 3 and 6 years who has vomiting, unsteadiness in walking, and a positive Macewen's sign in the absence of any evidence of infection has most often a medulloblastoma of the vermis of the cerebellum. A child between the age of 6 and 12 who has vomiting, unilateral ataxia, hypotonia, incoordination, and a slow, coarse nystagmus in both eyes to the ipsilateral side has usually an astrocytoma of the cerebellar hemisphere. A child between the age of 6 and 12 with a history of long-continued, periodic attacks of vomiting and of transient unsteadiness who has bilateral pyramidal signs and bilateral hypotonia and ataxia usually has a neoplasm of the lining of the fourth ventricle. A child who has a progressive, bilateral and asymmetrical defect in the action of the lower cranial nerves and with this severe bilateral ataxia and pyramidal signs usually has an infiltrating tumor of the pons.

TUMORS OF THE OPTIC CHIASM

Such tumors from their anatomical position have as their most important sign bilateral primary optic atrophy. This atrophy with its associated defect in central and peripheral vision is usually present for many months before any other signs of an

intracranial neoplasm appear. The associated sign is that of increased intracranial pressure without specific localizing or lateralizing characteristics. When intracranial pressure has been raised and maintained, bilateral pyramidal signs with increased deep reflexes and extensor plantar responses are the obvious concomitants. The sutures of the skull gradually separate and after many months papilledema may be superimposed on the underlying optic atrophy.

The association of a glioma of the optic chiasm with generalized neurofibromatosis has long been recognized and the association of a bilateral primary optic atrophy with a few areas of café au lait pigmentation of the skin is almost always evidence of a glioma of the chiasm. The reverse of this clinical combination is also true. Any child with evidence of generalized neurofibromatosis may before puberty develop evidence of a glioma of the chiasm. A child with extensive neurofibromatosis is almost always one who is thin and small in the first half of his childhood. If such a child changes in physique and configuration and has a steady increase in weight and constant lethargy, these hypothalamic signs are most often evidence of development of a glioma of the chiasm. Strangely enough, a child who has slight evidence of neurofibromatosis and who develops a glioma of the optic chiasm tends to do this in the first few years of his life. One with extensive evidence of neurofibromatosis does not usually develop signs of a chiasmal lesion until the second half of his childhood. Where there is no evidence of neurofibromatosis, the diagnosis of glioma of the chiasm is made on the history of progressive failure in vision and evidence of primary optic atrophy.

A primary optic atrophy which develops in a child between the ages of 2 and 6 years where there are none of the characteristic retinal and macular changes of the late infantile variety of cerebral macular degeneration of Bielschowsky is almost always evidence of a tumor of the chiasm. The obvious exceptions are an internal hydrocephalus where enlargement of the third ventricle has produced constant pressure on the chiasm and Albers-Schonberg disease where the hypertrophy of the edges of the optic foramen has produced primary optic

atrophy by direct compression of the optic nerve.

Glioma of the optic chiasm is one of the few intracranial tumors in childhood in which the diagnosis can be demonstrated by x-ray photographs of the skull. With such a tumor there is an erosion of the anterior clinoids and a ballooning of the sella turcica in its anterior portions. This tends to produce the appearance of a double sella which is sometimes described as having the appearance of a mandolin. In addition, x-ray photographs of the optic foramina demonstrate enlargement. Of these two roentgenologic findings, the second is more diagnostic than the first since it is possible to find a double sella turcica on the x-ray photograph of the skull of a small child who has for any reason an enlargement of the third ventricle.

A tumor of the optic chiasm has associated geographic changes in the visual fields, but the demonstration of these visual defects is not possible in most small children.

Chiasmal tumors from their anatomical position are not amenable to operation. X-ray therapy is the only possible form of treatment.

CRANIOPHARYNGIOMAS

The anterior and intermediate lobes of the hypophysis develop from the buccal mucosa and craniopharyngiomas are epithelial in origin and are tumors of the hypophyseal duct. From their position they give signs and symptoms of hypothalamic defect. Most commonly they occur in boys and their presence is usually unsuspected until after the age of 6 years. Skeletal growth is retarded, but this is not severe enough to produce dwarfism. The first sign is of lethargy which later advances into somnolence. This apathy is often regarded at first as evidence of emotional disturbance. The other classic signs of hypothalamic defect, obesity, polyuria, polydipsia, increased sugar tolerance, and lowered basal metabolic rate, are seldom present until late in the disease. Recurrent headache is more common than recurrent vomiting. For many months any defect in vision is usually a peripheral defect in the visual fields without gross diminution in central acuity, and such a visual defect in a young child escapes detection. A tumor in this position must grow to considerable size before it produces extensive pressure on the chiasm and before there is bilateral primary

optic atrophy. From the nature of the signs and symptoms of a craniopharyngioma which in the early stages are vague, evanescent, and related to the personality, such tumors frequently escape diagnosis for many years.

They are the outstanding example, however, of all intracranial tumors in childhood where the diagnosis most often can be made with certainty from x-ray examination of the skull. The sella turcica is almost always symmetrically enlarged and there is erosion of both the anterior and posterior clinoids. In addition, in seventy per cent of cases there is a characteristic suprasellar calcification which is in the middle line and usually fleck-like in appearance. The enlargement of the sella turcica is not often as extensive as that seen with a pituitary adenoma, but the suprasellar calcification is a diagnostic sign.

These tumors are present from early childhood and grow slowly for many years. Then their size may rapidly increase from cystic degeneration of their central regions. It is at this time that the general signs of increased pressure first appear. Headache and vomiting become more marked and papilledema is superimposed on the underlying primary optic atrophy. The associated neurological signs have no quality of lateralization but are usually mild, bilateral, pyramidal signs with little or no ataxia. The cranial nerves except the second are unaffected, but lateral movement of the eyes may be limited when the intracranial pressure becomes high.

The anatomical position of such tumors, lying as they do behind the chiasm, below the hypothalamus, above the hypophysis and in close contact with the internal carotid arteries, makes complete surgical removal technically impossible.

GLIOMAS OF THE HYPOTHALAMUS

Tumors of the hypothalamus are much less common than suprasellar craniopharyngiomas, but they have the same systemic signs of obesity, somnolence, diabetes insipidus, decreased metabolic rate, and arterial hypotension. They ultimately have signs of increased intracranial pressure and may be accompanied by major or minor convulsions. There is no evidence on x-ray photographs of calcification above the sella as is so commonly found with craniopharyn-

giomas, and the papilledema which ultimately appears is seldom preceded by primary optic atrophy.

TUMORS OF THE THALAMUS

Tumors of the thalamus are not common, but they are seen more often in children than in adults. Apart from the general signs of increased intracranial pressure their local signs are few. Theoretically, marked changes in perception of cutaneous sensation should occur, but in practice such changes are almost never demonstrated. The most characteristic sign is a contralateral ataxia which has much of the quality of Sydenham's chorea. The irregular movement, however, is more rapid and finer in range, and can more accurately be compared to the movements of electric chorea. The affected limbs are weak, but there is mild spasticity, increase in the deep reflexes, and an extensor plantar response. In this spasticity is the difference from the weakness of chorea, for there the reflexes are reduced and the picture is of hypotonia or flaccidity. Tumors of the thalamus are frequently astrocytomas and grow slowly. It is for this reason that the local signs of tremor in the contralateral limbs may be present for many months before any signs appear of increased intracranial pressure. It is because of this that they are most difficult to diagnose in their early stages.

TUMORS OF THE PINEAL BODY AND THE QUADRIGEMINAL PLATE

The tumors of this region are of various pathological types. The most common are teratomas, pinealomas, pinealoblastomas, and ganglioneuromas. Although they may occur at any age, they are most frequently found in childhood.

Such tumors press downward on the corpora quadrigemina, forward into the posterior portion of the third ventricle, and backward against the cerebellum. When still quite small they may produce occlusion of the aqueduct of Sylvius.

From their position, they are most often accompanied by specific and dramatic signs. Pressure on the superior colliculi results in absence of upward movement of the eyes and Argyll Robertson pupils. Pressure on the inferior colliculi results in central deafness. The most dramatic sign is precocious sexual development in the male. There is

no evidence that the pineal body has any internal secretion and pubertas praecox, which can accompany tumor in other regions of the brain, is apparently the results of hypothalamic disturbance. Limitation of upward movement of the eyes as a solitary sign may be evidence of congenital aplasia of the third nuclei or of nonspecific dilatation of the third ventricle. True Argyll Robertson pupils, which must be myotic as well as fixed to light, are rarely found in any variety of congenital lues. When pubertas praecox, absence of upward movement of the eyes, and Argyll Robertson pupils are all present, the diagnosis of tumor of the pineal body is certain. The other neurological signs are those of any midline tumor, papilledema, bilateral pyramidal signs, and ataxia of the trunk and legs.

Teratomas of the pineal body frequently calcify and then can be recognized by x-ray photographs. Calcification of the pineal body before puberty is rare. Almost always it is evidence of a pineal tumor, but it can occur with generalized neurofibromatosis. In the latter, there is usually calcification of the choroid plexus in addition. In childhood, calcification of the choroid plexus alone is evidence of a papilloma.

Tumors of the pineal body are anatomically so situated that attempts at surgical removal are most difficult and seldom have succeeded. In order to approach the mesencephalon, some of the major vessels of the brain must be sacrificed and such interference produces hemiparesis or hemianopsia or both. It is for this reason that the most usual procedure is to relieve intracranial pressure by simple decompression or to attempt surgically to relieve the blocking of the aqueduct by Torkildsen's maneuver.

Most tumors of the pineal body are not affected by roentgen therapy, but such is often used in the absence of more useful treatment.

TUMORS OF THE CEREBRAL HEMISPHERES

Tumors of the hemispheres occur in children and may be of the same pathological types as those seen in adults. A primary neoplasm of the cerebral hemisphere which gives localizing or lateralizing signs before the age of 2 years is almost unknown. For this reason the diagnosis of intracranial tumor in an infant who has a one-sided

weakness or a history of one-sided convulsions is almost always wrong. Tumors of the hemisphere occur most commonly in the second half of childhood. Their presence may be suspected in children of this age who have true Jacksonian convulsions involving the face, the arm, or the leg even before any evidence of increased intracranial pressure has appeared.

Meningiomas of the hemispheres in children seldom produce hyperostosis of the skull, but they are occasionally associated with a defect of the skull in both tables. This bony destruction is often remarkably similar to that of Hand-Schuller-Christian's disease. Oligodendrogliomas of the hemispheres may be calcified and may throw shadows on x-ray photographs as in adults. The shadows are usually very faint and fine, and stereoscopic photographs are necessary for their accurate localization within the substance of the hemisphere.

The limitations which are inherent in the neurological examination of a child are obvious when an attempt is made to localize a lesion of the cerebral hemispheres. It is seldom possible accurately to examine the fields of peripheral vision, to demonstrate aphasia except of the crudest type, or to evaluate the perception of the finer modes of sensation. If convulsions occur, they seldom have any Jacksonian march or are even lateralized. Forced grasping and euphoria, which may be the key to localization in an adult, are almost never present in a child. The Foster Kennedy sign of papilledema in one eye and primary optic atrophy on the side of the tumor is not seen in childhood. Specific signs are limited to some asymmetry of the deep reflexes or to the presence of a fleeting extensor plantar response. Most often tumors of the frontal lobe are diagnosed on the absence of any fixed and local signs. Tumors of the parietal and temporal lobes are usually accompanied by a slowly advancing, contralateral hemiparesis with periodic convulsions which may be generalized or lateralized. If the convulsions have a Jacksonian march the localization can usually be made to the region of the central fissure. In a tumor of the temporal lobe contralateral facial weakness of the cortical type usually precedes weakness of the appropriate arm or leg, and gross defect of the visual fields

can usually be demonstrated. The occipital lobe is seldom the site of a tumor in childhood. The localization of such a neoplasm is difficult since subjective and objective defects in vision which are so valuable in localization can almost never be demonstrated with accuracy. When such a tumor has grown sufficiently to invade the adjacent parietal cortex the appropriate signs of a contralateral hemiparesis appear.

DIFFERENTIAL DIAGNOSIS

Accurately to distinguish a primary intracranial tumor from other causes of increased intracranial pressure and defect of local function is both complicated and difficult, but there are a few general principles that may be considered.

Small children are so prone to acquire infections of the middle ear and of the upper respiratory tract that the history alone of such preceding infections cannot be used to distinguish a tumor from an intracranial abscess. A child who has an intracranial abscess looks pale and ill, but a child with a primary tumor is often remarkably robust. This simple observation is usually of great value in diagnosis.

It is now well known that in a child lead encephalopathy may produce almost all the appropriate signs of a midline cerebellar tumor. The clue to the diagnosis lies in the frequency with which major convulsions accompany lead encephalopathy and the infrequency with which they occur with a tumor of the posterior fossa. Basophilic stippling of the red cells of the peripheral blood may be absent with lead intoxication, but almost always there is evidence on x-ray photographs of metallic deposition at the growing ends of the long bones. Proper interpretation of such lines of increased density is difficult and the only form of examination that is certain is chemical or spectrographic proof of the presence of an abnormal quantity of lead in the peripheral blood.

The clinical picture of tuberculous meningitis is not often confused with that of a primary tumor, but tuberculous meningitis may be accompanied by papilledema and by separation of the cranial sutures. When such signs of pressure have developed there are almost always present variable paresis of the extra-ocular muscles and rhythmic

movements of the limbs which give the clue to the proper diagnosis. Tuberculoma of the brain is now rare in the United States and this makes recent statistical records of intracranial tumors in childhood quite different from the classical compilation of Allen Starr.

Acute meningo-encephalitis, presumably of virus origin, is often most difficult to distinguish from intracranial abscess or tumor. Although this disease is inflammatory, it may have its specific signs completely lateralized. Such a meningo-encephalitis may have a complete hemiplegia with appropriate homonymous hemianopsia. The rapidity of onset, the presence of fever, and the meningeal reaction of the spinal fluid distinguish it from tumor. The absence of signs of toxemia distinguish it from an intracranial abscess.

Various complications have appeared in the recent literature on the localization of intracranial tumors by the use of ventriculography. These demonstrate that such air studies are of less value in early diagnosis and localization than is generally assumed. The same is true of electro-encephalography. Two-thirds of all tumors in children are situated in the posterior fossa, and the majority of those above the tentorium are deep in the hemispheres or in the central portions of the brain. Since the present techniques of electro-encephalography record electrical discharges from only the most superficial layers of the cortex, their frequent failure to demonstrate or to localize intracranial tumors in children is not unexpected. Cerebral angiography is of more value in accurate localization than either of the two preceding techniques. It has the additional advantage of frequently demonstrating the pathological diagnosis before intracranial exploration. When the pathological diagnosis can be determined many unnecessary or futile operations can be avoided. Cerebral angiography, however, although theoretically simple and rapid, is technically more difficult than ventriculography, since radioopaque material injected into the carotid artery passes through the intracranial vascular tree at remarkable speed.

The only type of intracranial tumor in childhood in which complete recovery and freedom from recurrence can be expected is the astrocytoma of the cerebellar hemis-

phere. Lindau's disease with the vascular tumor in the same region of the cerebellum does not give clinical signs before puberty. In all other posterior fossa tumors, either from their pathological structure or their anatomical situation, complete removal is not possible. Meningiomas, astrocytomas, or oligodendrogliomas of the cerebral hemispheres are open to possible surgical removal in their entirety. From their anatomical situation, however, they are frequently associated with contralateral hemiparesis which is permanent, and with lateralized major convulsions which are most intractable. All other neoplasms situated above the tentorium from their position or pathological structure are not open to complete removal with restoration of normal function. The one possible exception is the rare cyst or nonmalignant tumor of the cavity of the third or the lateral ventricle. For this reason, surgical relief of advancing intracranial pressure by varied maneuvers and irradiation of the tumor comprise in essence what is possible at present with all other intracranial tumors in childhood. After such relief of pressure prognosis for useful performance and life itself is controlled by at least two obvious variables, anatomical position and pathological structure of the specific tumor.

Nasal Sinusitis—The erroneous belief that nasal sinusitis is incurable should be corrected. True, some patients with markedly advanced hyperplastic disease never obtain a so-called pathologic cure. It is the exception rather than the rule, however, for such patients not to be symptomatically cured, if they will submit to modern methods of management.

Nasal sinusitis is a curable disease provided a correct diagnosis is made and adequate treatment is instituted before irreversible mucosal changes take place. The rationale for the therapeutic procedure or procedures employed should be well established. Resort should not be had to radical methods if more conservative ones will suffice. If there is doubt as to which should be used, and if there is no hazard in doing so, conservative treatment warrants a thorough trial.

It should be remembered that many patients with acute sinusitis get well spontaneously. In only a comparatively small percentage does the chronic disease develop. In this group a considerable number would be cured if early rational therapy were instituted. Unfortunately, as with tuberculosis and cancer, the diagnosis is not made early enough to make possible a favorable result with conservative therapy.—Hollender, *J. Florida M. A.*, May '49.

CONGESTIVE HEART FAILURE

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Considerable advance and new discoveries have been made during the past decade in the field of nutrition. In recent years we have learned a good deal about water and electrolyte metabolism of the body and it is here that the greatest advance has been made in the treatment of congestive heart failure. We now have potent diuretics that are very helpful when properly used. In recent years other changes have been made to increase the comfort of the heart patient.

Heart disease is still the leading cause of death, so anything that can be done to prolong the life of the cardiac is very worth while. I wish to discuss congestive heart failure and spend most of the time in discussion of the treatment of these cases as used today.

At the outset, however, I want to mention some of the signs and symptoms that go to make up the clinical picture of congestive heart failure, but I shall not go into the mechanism or the reasons for this condition.

CLINICAL PICTURE OF HEART FAILURE

Shortness of breath on slight exertion is one of the first symptoms noted. Walking up steps, upgrade or against the wind will bring on the shortness of breath. As time goes on and the disease progresses, the dyspnea or shortness of breath is present all the time. Even before shortness of breath or dyspnea occurs most heart patients complain of loss of energy, fatigue, restlessness and, at times, insomnia. Slight edema of the ankles late in the day is one of the common early symptoms. The edema disappears at night during the early stages of heart failure. Later in the course of the disease the edema not only fails to disappear but increases. In severe cases it causes general anasarca. It also causes enlargement and tenderness of the liver. Edema at the base of the lungs is present and it usually causes a troublesome cough. At this time there is a loss of appetite and the urinary output is decreased. History of paroxysmal noc-

turnal dyspnea is usually given. Heart hurry or palpitation is a frequent complaint.

Physical examination will show various findings, depending upon the stage of the process and how far advanced it is. In the average case of moderate severity one finds shortness of breath on slight exertion, a slight increase in pulse rate, and some pitting edema of feet and legs. The heart may be regular or irregular. It may be normal in size or enlarged if the disease is of long standing. Basal rales and limited excursion of the diaphragm is noted. All these cases should be fluoroscoped in the antero-posterior and lateral positions. If any unusual finding is noted, a barium meal should be given and an x-ray of the chest made. A little enlargement of the liver and possibly some ascites are present. The presence of a diastolic gallop rhythm or pulsus alternans may generally be relied upon as signs of heart failure. The veins of the neck are distended in the recumbent position or even in the semi-recumbent position.

A sudden gain in weight on a small food intake usually means retention of fluid. Levine,¹ in his textbook, *Clinical Heart Disease*, states that cardiacs can have as much as five liters of excess fluid in the intercellular tissue spaces and yet show no pitting or obvious edema.

Levine also calls attention to the fact that most of the signs and symptoms of heart failure may be simulated in other non-cardiac conditions. An enlargement of the liver may be due to cirrhosis or cancer; pulmonary rales to pneumonia, bronchitis or tumor; edema of the legs to nephritis, pelvic tumor, varicose veins, or hypoproteinemia; increased venous pressure to superior mediastinal obstruction. Another common mistake is diagnosing cardiac asthma as bronchial asthma.

By keeping in mind the signs and symptoms mentioned above and a careful physical examination, one can make a correct diagnosis of congestive heart failure in the majority of cases.

Read before the Tuscaloosa County Medical Society, February 7, 1949.

1. Levine's *Clinical Heart Disease*, 3rd ed.

TREATMENT

REST

The patient must have both mental and physical rest. The importance of the need for complete physical rest should be explained to the patient. The amount of rest needed will depend upon the degree and severity of the case and how well the case responds to treatment. Many little things can be done to add to the comfort and well being of the patient. There should be a comfortable bed with a back rest. Rubber sheeting should be removed. Allow the patient to sit in a chair, if possible, part of the time. Allow bathroom privileges or furnish a bedside commode. Some patients can sit up several hours daily and eat their meals at the table, but should go to bed after meals for a rest period. Encourage the patient to rest when he is supposed to and do not let him abuse his privilege of being up too long. Small pillows to support the forearms and knees are aids in comfort for the patient.

Reading, writing, working crossword puzzles, knitting and listening to the radio are good diversions and help to pass the time.

Visitors should be restricted in the beginning of treatment. Visitors or workers from the patient's place of business should not burden him with anything to disturb him mentally.

The care of the patient at night is a very important part of the treatment. To insure a good night's rest it is wise to give morphine, gr. 1/6 to 1/4, the first few nights. If there is not much dyspnea, restlessness and cough, a hypodermic of codeine (gr. 1/2 to 1) may suffice. Phenobarbital (gr. 1 1/2) by mouth at bedtime will cause sleep in a good many patients. After the circulation is improved, sodium bromide, gr. 30, or chloral hydrate, gr. 10 to 15, can also be used effectively to produce sleep. Codeine and phenobarbital will be sufficient for most patients. A small dose (gr. 1/2) of phenobarbital two or three times daily and gr. 1 1/2 at bedtime have worked well for me.

DIGITALIS AND ALLIED DRUGS

Digitalis is always indicated in the presence of congestive heart failure. It may be used safely in the presence of premature beats, partial heart block, hypertension and even after a recent myocardial infarction.

It is essential that every physician familiarize himself with the action, dosage and toxic effects of digitalis. The toxic effects of digitalis are: colored vision, headache, loss of appetite, nausea, vomiting and diarrhea. There may be ectopic heart beats or auriculo-ventricular block. The changes in the electrocardiograph show depression of the S-T segments and lowering or inversion of the T waves.

Digitalis is best given by mouth except in rare instances. The most satisfactory digitalis preparations for oral use are the powdered leaf and the crystalline digitoxin (digitaline nativele).² Several plans of dosage have been satisfactory, based on the average adult requirement of 1.5 to 2 gm. (22-30 grains) of the powdered leaf for digitalization. The rapidity of digitalization should be guided by the patient's urgency of need, but there is little therapeutic justification for requiring more than three to five days. In non-urgent cases, 0.2 gm (gr. 3) may be given three times a day for two days, then twice daily for two days, after which a daily dose of 0.1 to 0.2 gm. (gr. 1 1/2 to 3) may be continued. A more rapid method is two or three doses of 0.4 gm. (gr. 6) for one day; and one or two on the second day, followed by doses of 0.1 to 0.2 gm. daily. It is wise for the physician to select the product of one manufacturer and become expert in its use. Most cases of congestive heart failure will require a daily maintenance dose of digitalis and the cases should be watched as the dosage varies in different people.

If digitoxin is used, the total dose is 1.25 gm. This can all be given in one dose but is usually given in 0.5 gm. at 6 hour intervals. The maintenance dose is 0.1 to 0.2 gm. or more.³

Only about one-third of the active constituents of the digitalis leaf is absorbed following its oral use. Digitoxin, on the other hand, is completely absorbed so that its dose is the same by mouth as intravenously.

PARENTERAL ADMINISTRATION

Parenteral administration is required only by patients who are in extremis. Ouabain

2. Cecil's Textbook of Medicine, 7th ed.

3. DeGraff, A. C.; Batterman, R. C., and Rose, Allen: Digitoxin, J. A. M. A., Oct. 15, '48.

is the most satisfactory preparation and should be given by vein.⁴ The total dose is 1.0 mg. and is best given in 0.25 mg. amounts at 2 hour intervals or longer. Digitoxin is equally effective when injected slowly into the vein. The dose is from 1 to 1.25 gm. for complete digitalization. It has the advantage over ouabain of greater persistence of action, this lasting for two to five days, where ouabain is eliminated within about twenty-four hours. Another method of rapid digitalization is the intravenous use of Lanatoside C. The dose is 1.6 mg. This drug is rapidly excreted and is not advised for long time digitalization. It should be followed by digitoxin by mouth in four hours. Intravenous digitalis must not be given any patient who has received digitalis in any manner, except in very rare instances where one knows the exact amount of digitalis one has taken. Even then it is dangerous.

Attacks of cardiac asthma or acute edema of the lungs may occur and demand emergency treatment. Give morphine and atropine by hypodermic. Slow intravenous injection of aminophyllin (3 $\frac{3}{4}$ to 7 $\frac{1}{2}$ grains) is very helpful. Oxygen should also be given. These measures are used along with quick digitalization as just described.

DIET

In the acute stages of congestive heart failure it is a good plan to put the patient on a Karrell diet for two or three days. This consists of 200 cc. of milk four times daily. Allow a little water and cracked ice for thirst. This diet is particularly worth while if the patient is overweight and has hypertension. After three days on this schedule a more general diet can be given. Multiple vitamins, as a supplement to the diet, should be used. All patients who have had congestive heart failure for any length of time are undernourished so an adequate diet should be part of the program in their management. The salt intake should be limited to one to two grams and the amount of fluids should be all the patient desires. He should be encouraged to take from 2,000 to 2,500 cc. daily. A fair amount of protein should be given, but as we raise our protein we also raise the salt intake. Casein is a good source of protein that is salt free.

If the edema is severe, the amount of sodium is restricted to a very small amount

and the fluids are increased to 3,000 cc. or more each day. In this diet, salt-free bread, salt-free butter and salt-free milk (lonalac) must be used, along with a salt substitute (Neocurtasal). Salt, soda and baking powder should not be used in the cooking or at the table. No medicine containing sodium should be taken. A number of foods containing salt must be eliminated from the diet. Schemm⁵ uses as much as 6,000 to 8,000 cc. of fluids in some of his cases, along with an acid ash diet.

DIURETICS

A diuretic is a drug used to increase the volume of urine. One of the aims in the treatment of congestive heart failure is to help the patient get rid of the edema. If bed rest, digitalis, adequate fluid intake, and a low sodium diet fail to get rid of the edema, some diuretic is indicated.

The mercurials are the most effective diuretics we have. Salyrgan-theophylline, mercuzanthin and mercuhydrin are the most widely used. Salyrgan and mercuzanthin are given intramuscularly, but can also be given by vein. Mercuhydrin gives best results when given intramuscularly, but can also be given by vein. The initial dose of any of these drugs is $\frac{1}{2}$ cc. followed by one or two cc. doses at intervals of 2 or 3 days until the patient is free of edema. Then an occasional dose once a week will frequently control the patient. Salyrgan-theophylline or mercuzanthin tablets, five at one dose, are taken as soon as the patient awakens in the morning. This dose is repeated every four or five days. One tablet after meals may suffice.

The acid forming salts are another widely used group of diuretic drugs that are given by mouth. The one that I have found most satisfactory is enteric coated tablets of ammonium chloride. The dose is two or three $7\frac{1}{2}$ grain tablets given after meals to prevent nausea. It may only be necessary to give this drug five days a week.

The xanthines are another group of commonly used diuretics. A few of the ones of the many that are on the market are: Theobromine sodium salicylate (diuretin), theobromine calcium salicylate (theocalcin), theobromine sodium acetate (theso-

5. Schemm, F. R.: A High Fluid Intake in Management of Edema, Especially Cardiac Edema, *Ann. Int. Med.* 17, 1942.

4. Cecil's Textbook of Medicine, 7th ed.

date), calcium theobromine and calcium gluconate (calpurate). The dose of all these is 0.5 to 1 gm. three or four times daily. The greatest difficulty in any of the xanthines is the gastric irritation, nausea and vomiting accompanying their use. It is thought the calcium salts of theobromine are more effective and less irritating than the others. Aminophyllin tablets, 1½ to 3 grains after meals, or suppository (7½ grains) are effective diuretics at times.

Mercurial diuretics should not be given by needle in the presence of severe nephritis, a high non-protein nitrogen (above 80), or when red cells are in the urine. One should give mercury with extreme caution with a fixed low specific gravity in the urine.

If there is much pleural effusion or ascites present, the fluid should be removed by needle.

COMMENT

There are several general measures that should be carried out in the management of congestive heart failure. One should always keep in mind that he is treating a patient,

not a disease. The patient's surroundings should be made as pleasant as possible. Every effort should be made to keep the patient in a happy frame of mind.

It is wise to keep a daily record of the fluid intake and urinary output. It is important to weigh the patient each day. This is an accurate way of keeping up with the progress of the patient. It is rather difficult in the hospital to get the fluid intake and urinary output but it is easy to keep a weight chart.

Laxatives or enemas should be given as needed to insure proper elimination. Drastic purgation is not necessary.

There have been great advances in the treatment of congestive heart failure in recent years. May we look forward in the near future to still greater strides in this field.

Perseverance and close observation are needed on the part of the physician. Cooperation and a good mental attitude are necessary on the part of the patient in order to get the best results.

AMEBIASIS

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Amebiasis is a treacherous parasitic disease affecting the large bowel to varying extents and occasionally causing widespread complications. It is contracted by ingesting the cysts of *Endamoeba histolytica* which undergo excystation in the terminal ileum and invade the mucosa of the colon and may invade other tissues of the body.

Statistics show that from 2 to 10% of the inhabitants of the United States are infected. Craig found 12.7% infections in a study of 189 Army medical officers who had never been out of the United States. In 1944 there were 11 deaths from amebic dysentery in

Bryce Hospital, Tuscaloosa, Alabama, as determined by the United States Public Health Service. Deaths from amebiasis are uncommon but some may go unrecognized, as in the case of the first death during the 1933 Chicago epidemic which was only diagnosed at autopsy. Reports from the United States Public Health Service show that there were about 1400 cases and at least 52 deaths due directly or indirectly to this epidemic. With the return of our ex-service men from countries where amebiasis is prevalent, there are bound to be many carriers and a number of mild cases which will go unrecognized unless we are amebiasis conscious.

Read before the Southeastern Division of the Association, Montgomery, January 27, 1949.

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The symptomatology may vary from no symptoms to a marked dysentery with 20 to 50 stools per day. Often, where complications develop, such as liver or lung abscess, the bowel symptoms may have gone un-

recognized and only the symptoms of the complications will be evident. The symptoms may be as common as found in many other diseases, namely, fatigue, nervousness, various dyspeptic-like disturbances, constipation, colonic tenderness, only mild diarrhea, or they may be referred entirely to the complications. The patient has fever in proportion to the severity of the infection. In many cases symptoms may be due to secondary invasion of the amebic lesions with pyogenic organisms.

Occasionally, complications such as bowel hemorrhage, perforation of an ulcer, and rarely bowel obstruction may occur. The most common severe complication is liver involvement, usually in the form of multiple foci but commonly forming a solitary abscess. Occasionally abscesses of the lung and more rarely of the brain are encountered. The course of the amebae is through the blood stream to the liver, brain, or lung, and possibly through the peritoneal cavity to the liver. The size and number of bowel lesions are, perhaps, factors in the spread to other parts of the body.

Craig, in a review of statistics, found that 60 to 90% of amebic liver abscess cases gave a history of dysentery. It usually occurs in the male, 80 to 90%. The incidence of liver abscess is from 2 to 4% in all clinical cases of amebiasis, but occurs more frequently in the tropics than in the temperate climates.

Early recognition of liver involvement and proper treatment may prevent abscess formation. The first symptom of liver abscess is pain that may be sharp or dull, which is followed by fever and leukocytosis, usually 15,000 to 30,000. There are often chills, nausea, and vomiting, the skin becomes sallow, and jaundice may develop. X-ray may show an elevated diaphragm.

Appendicitis may be a complication in amebiasis, or involvement may simulate appendicitis. Many cases in the Chicago epidemic were mistaken for appendicitis. In one report by Ochsner 10% of patients with appendicitis were found to have amebic involvement of the appendix. Faust found the appendix involved in 6.4% of 202 autopsies following sudden death.

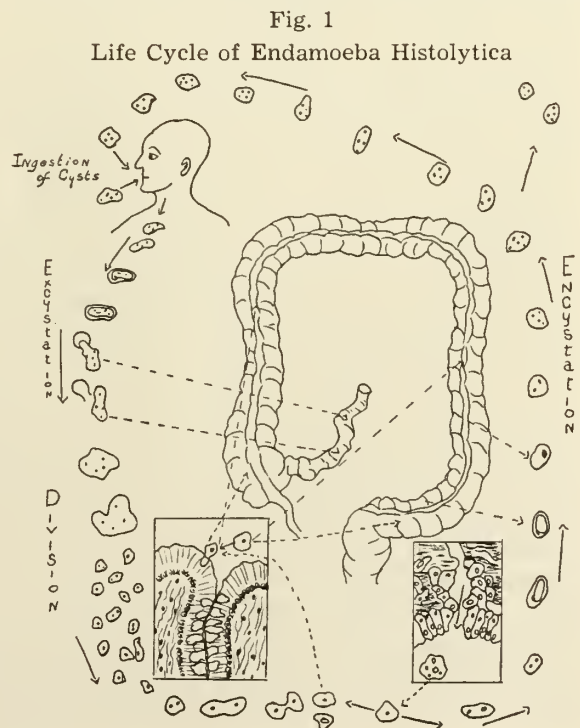
The diagnosis of amebiasis must always be confirmed by finding the parasites. However, the history may be a great adjunct. In the tropics there is usually a diarrhea—5, 10,

20 or more bloody mucoid movements per day. The stools may resemble thick saliva containing small fecal particles and tinged with bright red blood. This type of stool is only found in the acute case or during an acute exacerbation. This type of stool should contain *Endamoeba histolytica* trophozoites which should be easily recognized.

A very satisfactory method is to examine the rectum and sigmoid with a sigmoidoscope, and if ulcers are found to take smears directly from the ulcers or inflamed mucosal areas and examine immediately on warm slides. In chronic cases it may be necessary to stain for cysts. This requires continuous practice and special training in the identification and differentiation of the *Endamoeba histolytica*. There is also a culture method which is very satisfactory in experienced hands.

The parasites enter the body with contaminated food or water. Food handlers may be infected and contaminate either the food or water. The cysts, at ordinary temperatures and when kept moist, may live for several days. Sunshine and drying kills them in a short time. They may also be transported by flies.

The parasites are ingested in the encysted stage and in the ileum excystation occurs.



The amebae undergo division and attach themselves to the mucosa, especially in the crypts. By means of their ameboid movement and by the action of a lytic substance which they secrete, they quickly penetrate into the submucosa. Here they cause a gelatinous necrosis which undermines the mucosa and ruptures into the lumen of the bowel, forming ulcers. In some cases these lesions are only microscopic. Other lesions are extensive, and secondary bacterial infection occurs. Without secondary infection very little leukocytic infiltration occurs. The parasites migrate into the submucosa and into the muscularis coat and invade the capillaries, causing thrombosis.

The treatment of amebiasis of the colon and small lesions in the liver, lung, and other parts of the body is by chemotherapy. Large abscesses, bowel perforations, and certain other complications must be treated surgically in addition to chemotherapy.

There are three main types of drugs of value in the treatment of amebiasis: emetine, iodine compounds, and arsenic compounds. Emetine hydrochloride is given in the dosage of one grain daily for seven to ten days. It may be given in enteric coated pills, two grains per day for 20 days. If emetine therapy is continued beyond these periods, an electrocardiogram should be made in order to detect deleterious effects on the cardiac musculature. The arsenic compounds consist of carbarsone and acetarsone. Carbarsone is the favored drug and can be given in 0.25 gram doses three times a day for ten days. Arsenic compounds must be given with care in extensive liver involvement. The iodine compounds are chiniofon, vioform, and diodoquin, and of these diodoquin in the dose of 0.21 grams or vioform in the dose of 0.25 grams three times a day for ten days are most commonly used.

In the acute phase emetine is given first and it causes a rapid subsidence of the symptoms, but it does not cure the patient except in a very small percentage of cases. The course of emetine should be followed by a course of carbarsone and then a course of diodoquin or vioform. Often a second or third course of these drugs must be given.

Involvement of the liver may be very widespread with multiple foci. If recognized early, this type of infection may be very satisfactorily treated with emetine. Most

lung and brain abscesses will usually subside with emetine treatment. In addition to chemotherapy, various forms of symptomatic treatment are indicated such as belladonna, paregoric, nembutal, and, in extreme cases, narcotics. If the disease has run a long course, special diets, iron, and vitamins may be required.

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Subtaloid Dislocation of the Foot—The urgency of immediate reduction cannot be overestimated because of danger of sloughing of the soft tissues due to pressure on the deep vessels of the foot. There is obvious deformity of the foot with marked swelling and considerable pain, and reduction should not be delayed in order to obtain a roentgenogram. X-ray examination should be made to confirm diagnosis if it is available but should not be allowed to delay treatment. This is in the nature of an emergency, especially in the presence of circulatory impairment. If the patient is seen within an hour or two of the accident, reduction can, as a rule, be accomplished by manipulation with relatively little difficulty. After twenty-four to forty-eight hours have elapsed severe swelling and edema of the foot are such that reduction by manipulation is often impossible. Arthrotomy is indicated when closed reduction is unsuccessful. The incision is made over the prominent talar head either on the medial or lateral sides of the foot, depending upon the type of dislocation that is being treated, and the dislocation is reduced by means of a lever.—*Hatchette, New Orleans M. & S. J., May '49.*

PEDIATRIC CASE REPORTS

Edited by

AMOS C. GIPSON, M. D.

Gadsden, Alabama

J. B., aged 18 months, was thought to be doing well until November 12, 1948, when she began to develop edema of the eyelids, which gradually increased.

On November 27, when she was brought to the Children's Clinic, she had marked edema of both eyelids, hands, feet and legs. She had been vomiting frequently following the onset of the edema.

She was very pale and poorly nourished. The diet consisted of 55 ounces of milk daily, with little additional food.

Laboratory report on November 27 showed a white count of 7800, with 43% polymorphonuclear leucocytes, 3% large mononuclear leucocytes and 54% lymphocytes; hemoglobin of 8 gm. (52%), red blood count of 3,280,000; urine clear; nonprotein nitrogen of 36.5 mg. per 100 cc.; cholesterol of 140 mg. per 100 cc.; and sedimentation rate, 5 mm.; 1 hour; serum protein, 2 grams per 100 cc.

On November 29, 200 cc. of citrated blood were given intravenously.

On November 30, hemoglobin was 7 gm. (45%); and red blood count, 4,240,000.

Within 24 hours after the transfusion, the edema was reduced and it had almost disappeared at the time of discharge on December 3.

A diet high in proteins and low in carbohydrates was started on admission. Only one pint of milk was allowed daily.

The edema, anemia, low serum protein, absence of albumin in the urine, and response to therapy make the following tenable diagnoses:

Nutritional edema.

Nutritional anemia.

As the Greek word *Proteiss* indicates, protein "holds first place" as an essential nutrient in the formation of cell protoplasm. It is found principally in the muscular and nervous systems. It forms a part of most body fluids and secretions. Protein is essential for growth and repair of tissue cells.

The nutritive value of a protein depends, as far as is known, only on the kind and number of the amino acids of which it is composed. Of the twenty two amino acids identified as resulting from the hydrolysis

of proteins, ten have been found to be necessary for growth and development.

Proteins of animal origin tend to be about twice as efficient as those of vegetable origin.

During the period of growth, more nitrogenous food must be consumed than is excreted (positive nitrogen balance), whereas adults need only maintain a nitrogen equilibrium. Not all protein, however, is equally efficient in the maintenance of nitrogen equilibrium or in the establishment of nitrogen retention. When the diet contains relatively large quantities of protein of high biologic value (milk, meat, egg albumin), the total quantity of protein required is not as great as it is when the protein consumed is principally of vegetable origin. When the diet does not contain an adequate amount of the essential amino acids, nitrogen equilibrium is not maintained, irrespective of the total quantity of protein in the diet.

While there are undoubtedly a number of manifestations of protein deficiency, such as inadequate growth, lack of stamina, and increased susceptibility to infections, edema is the only one which can be considered to be characteristic, but even it is not specific. There is nothing to differentiate hypoproteinemic edema from that of other causes (principally nephrosis). Edema occurs when the serum protein is markedly decreased. While the edema level of serum protein is generally considered to be between 4 and 5 gm. per 100 cc., the serum albumin content is the most important factor and edema begins to occur when it is below 2.5 gm. per 100 cc. The function of protein in the control of water balance is dependent upon its osmotic effect.

Treatment: Curative treatment in the uncomplicated case requires nothing more than the temporary provision of a high caloric, high protein diet in which a generous amount of the protein consists of milk, eggs and meat. Children who have exceptionally low serum protein levels and/or anemia should have transfusions.

Ignored tuberculosis progresses. An organized regimen, active treatment, awareness of the possibilities and cooperation are necessary to cure or check the disease. Sarcoidosis may be entirely ignored, and with few exceptions the patient does just as well, or better, than with medical intervention.—Henry E. Michelson, M. D., J. A. M. A., April 17, 1948.

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THE 1949 MEETING

Nearly a third of the Association's membership registered for the annual session held in Montgomery April 19, 20 and 21, and this was a source of great satisfaction to all those who had made a contribution to the success of the meeting. Particularly gratified should have been the Montgomery County Medical Society, host to the Association, whose members made every effort to see that everyone had an enjoyable time from the moment the address of welcome was given by the society's president, Dr. Francis Thigpen, until the final curtain was rung down after Thursday morning's business session. The transactions of the meeting, begun in the May Journal and concluded in this number, could not record all the courtesies extended the members of the Association. It is known, though, that they went away feeling amply repaid for having attended the session, and glad that once again the Capital City had opened its arms and heart to them.

The meeting of 1950 will be in Birmingham, April 20-22, under the presidency of Dr. Frank C. Wilson, elected to succeed Dr. J. Paul Jones who served so admirably in 1949. Elected also were Dr. William R. Carter, Repton, as Vice-President of the South-

western Division of the Association and Drs. B. W. McNeese, Fayette, J. D. Perdue, Mobile, and Edgar G. Givhan, Jr., Birmingham, as members of the State Board of Censors. Elected Counsellors for first terms of seven years were Drs. J. H. Baumhauer, Mobile, J. Mac Barnes, Montgomery, J. C. Gladney, Jasper, and Sellers Underwood, Birmingham. All these join a long list of distinguished men who, each in his time, have served the organization with great devotion asking no other reward than that their contribution might further the Association's high calling in the art and science of medicine.

The session of 1949 is now history. That of 1950 will be looked forward to with eager anticipation.

LICENSURE OF FOREIGN MEDICAL GRADUATES

(The Committee on Foreign Medical Credentials, an unofficial body sponsored by the Council on Medical Education and Hospitals of the American Medical Association and composed of invited individuals from organizations interested in the problem of foreign physicians, is issuing, for the information of the public and the governmental agencies concerned with the licensure of physicians, a summary of the problems involved in the licensing of foreign medical graduates and its recommendations for their solution.)

The membership of the committee includes individuals from the following organizations:

Advisory Board for Medical Specialties, Association of American Medical Colleges, Council on Medical Education and Hospitals, Department of State, Federation of State Medical Boards, Illinois Department of Registration and Education, Institute of Inter-American Affairs, Institute of International Education, W. K. Kellogg Foundation, Medical Examining Board of Connecticut, Minnesota State Board of Medical Examiners, National Board of Medical Examiners, New York State Board of Medical Examiners, Pan American Sanitary Bureau, Rockefeller Foundation, United States Office of Education, Wisconsin State Board of Medical Examiners, World Health Organization, and the World Medical Association.)

The licensure of physicians who have received their medical degrees from foreign institutions seems certain to present a growing problem for the licensing bodies of the forty-eight states, the District of Columbia and the territories and outlying possessions of the United States and for the National Board of Medical Examiners. The unsettled economic and political conditions in many parts of the world have already stimu-

lated many physicians to migrate to the United States and it may be predicted that the number seeking to migrate will increase in the years ahead. In addition, each year a number of Americans enter foreign medical schools with the expectation of returning to the United States to practice. Some of these students study abroad because they are unable to gain admission to an American medical college while others do so from choice.

The problem of the physician who has graduated from a foreign medical school promises to confront the public, various legislative bodies and the licensing boards with increasing frequency during the next several years. The problem has important and far reaching implications for the health and safety of the people of the United States. It is important, therefore, that the public be provided with information to serve as the basis for intelligent opinion and that legislative and licensing bodies be prepared to adopt an enlightened policy in deciding questions pertaining to the licensure of foreign trained physicians.

Two basic principles are involved in the licensure of physicians whether they be graduates of domestic or foreign schools. The first principle and one that has long been recognized by all states and nations is the requirement that a physician satisfy a licensing body representing the public as to his competency before he is permitted to practice. This principle is essential for the protection of the public. Without this requirement, the people of a community cannot distinguish those physicians who are competent to provide medical care from those who are not.

Similar requirements for licensure or equivalent certification by an appropriate public agency have been established for the protection of the people in many professional and non-professional occupations. Such occupations include architects, dentists, engineers, veterinarians, lawyers, nurses, electricians and plumbers. The principle of licensure by legally created agencies of the state has become so well established in our society that its value and validity cannot be questioned.

The second principle involved is that the training a man has undergone in preparing to enter a profession is a paramount factor

in determining the quality of his professional practice. It must be admitted that exceptional men may rise above the limits of their training, but this achievement is frequently accomplished only after years of experience in practice and additional training. To allow an inadequately trained physician to attempt to perfect himself through the mistakes of years of practice is to permit unwarranted and unnecessary abuse of patients who entrust their health and lives to him.

An important corollary of this second principle is that the best assurance of the quality of the training that a physician has received is an intimate knowledge of the faculty, facilities, curriculum and standards of the medical school from which he has graduated. The art and science of conducting examinations has not yet advanced to the point where full reliance can be placed on the results of the type of examinations to which licensing boards are limited by considerations of practicality. Only when the results of such examinations are coupled with an evaluation of the quality of training that a physician has received can a licensing board be reasonably confident that a physician is adequately prepared to assume the responsibilities that are an inevitable part of his practice.

In licensing graduates of American and Canadian schools, the various state licensing boards have for many years had the benefit of the findings of periodic thorough surveys of these schools carried out by the two accrediting bodies, the Council on Medical Education and Hospitals of the American Medical Association and the Association of American Medical Colleges. Some of the state licensing boards supplement this information with investigations of their own although it is beyond the resources of most boards to inspect periodically all the eighty medical schools in the United States and Canada.

It should be pointed out that the present high standard of medical practice in the United States has been the direct result of the recognition by the licensing boards that evaluation of the school from which a physician graduates is equally important as evaluation of the physician himself. Before this principle was generally recognized, the country was overrun with physicians who,

armed with a degree from a low grade school or out-right diploma mill, succeeded in one way or another in passing the examinations for licensure. The needless suffering and injury perpetrated by the incompetent and at times fraudulent practices of many of these inadequately trained men constitute a dark chapter in the history of medicine.

While it has been possible for the two accrediting agencies referred to above to maintain current appraisals of the quality of education offered by American and Canadian medical schools, it has been beyond their resources to attempt to maintain a similar inventory of the three hundred or more medical schools in other parts of the world. For many years this was not important because the numbers of physicians migrating to the United States was small and most foreign trained physicians came from medical schools that were well known in America.

Between 1930 and 1939 two developments occurred that entirely changed the situation. Unsettled and unfavorable conditions abroad prompted large numbers of physicians to migrate to this country. At the same time, internal developments in many countries led to a rapid deterioration in the quality of medical education. This change, which was readily apparent to American physicians travelling abroad in the years immediately prior to the war, was greatly accelerated when these countries became involved in World War II. The pressures of the war reduced the quality of medical education in all countries, including the United States, but in many countries the effect was catastrophic. Faculties were decimated, buildings, libraries and equipment were destroyed or badly damaged, all contact with scientific developments in other countries was interrupted and standards were lowered in an effort to turn out large numbers of physicians to serve the armies of the warring nations. By the end of the war, medical education in other countries, with few exceptions, had degenerated to a degree that was shocking to those who had known these countries in the period up to 1930. While medical education in the United States recovered quickly from the war and is now at the highest point in its development, unsettled political and economic conditions in many foreign countries have prevented any

similar recovery. Even more disturbing is the fact that some foreign countries appear to be committed to educational policies that are so unsound and so inferior that there is serious doubt that satisfactory standards of medical education will be reestablished at any time in the foreseeable future.

It is against this background that the problem of the foreign trained physicians must be studied. Their complete exclusion from the United States cannot be reconciled with the traditional role of this country as the land of opportunity. The fact that few foreign countries will admit the graduates of American medical schools to practice should not be accepted as a valid reason for pursuing a reciprocal policy. It is well, however, for the people to know that the United States is the most liberal of all countries in licensing physicians who have not graduated from their own schools.

While a policy of complete exclusion cannot be defended, it is clear that until more information can be obtained about the present quality of medical schools abroad, the licensing boards would fail in their responsibility to the public if they did not use the greatest care and discretion in admitting foreign trained physicians to their examinations.

Detailed current knowledge of foreign medical schools is indispensable for the guidance of state licensing boards in determining which foreign physicians have had sound training. It is essential that the various agencies concerned with this problem unite their resources and devise a satisfactory method for securing this information at the earliest possible date. It will not be an easy task and it is improbable that well documented evaluations can be made of all foreign schools in the same manner as is done for American and Canadian schools. The geographic and physical aspects of the problem alone present great difficulties. International relations will undoubtedly also limit the extent to which such a study can be carried out. One of the greatest difficulties will be to appraise accurately the great changes and fluctuations through which many schools have passed and are continuing to pass.

From such a study, however, it should be possible to derive a list of foreign medical schools which have maintained during spe-

cific periods, or are now maintaining, educational programs sufficiently comparable to the training offered by the medical schools of this country to warrant the admission of their graduates to the examinations of the licensing boards of the forty-eight states, the District of Columbia and the territories and outlying possessions of the United States as well as the examinations of the National Board of Medical Examiners.

As an added safeguard it would seem entirely reasonable that whenever a candidate cannot present evidence to a state licensing board that he is sufficiently familiar with recent scientific advances in medicine, with the practices and customs of American medicine, and with the English language, that he be required to take additional training in this country before being permitted to appear for examination. There is every reason to believe that the various licensing boards can develop regulations covering these points that will be fair to the foreign graduate and adequate to protect the public.

The American people are today well served by the licensing boards which they have duly constituted by law to protect them from incompetent practitioners of the healing arts. It is to be hoped that the people will continue to have confidence that these licensing bodies are acting for their best interests according to well established principles.

The licensing bodies and the governments to which they are responsible have a heavy obligation to continue their efforts to maintain high standards of medical practice. They must also recognize that the spirit and tradition of America place upon them an obligation not to deny the opportunity to practice his profession to any citizen or prospective citizen who can demonstrate satisfactory qualifications as to his professional competence and character.

If the problem of the foreign medical graduate is approached in this spirit, the Committee on Foreign Medical Credentials is confident that it will be solved without lowering the standards of American medicine and in a manner consistent with our national ideals of justice and humanitarianism.

IN TRIBUTE TO THE AMERICAN DOCTOR

"In Tribute to the American Doctor" is beautifully portrayed in the Philip Morris spread in this issue of the Journal. The Company invites all physicians to send for a copy suitable for framing.

SOUTHERN PEDIATRIC SEMINAR

Editor's note: Except for change in date, this reference to the Southern Pediatric Seminar is a reprint of an article on the subject that appeared in the May 1948 Journal.

The 29th session of the Southern Pediatric Seminar will meet in its accustomed place—Saluda, North Carolina—July 18-July 30, 1949, with Dr. Samuel F. Ravenel as Dean, Dr. Frank Howard Richardson, former Vice-Dean, and Dr. Mylnor W. Beach, Vice-Dean Elect. Other members of the faculty will include Drs. J. M. Arena, Lee Bivings, Amos Christie, Wilburt C. Davison, W. L. Funkhouser, Luther Holloway, George D. Johnson, Hughes Kennedy, Jr., Robert Lawson, Kenneth M. Lynch, O. L. Miller, Oren Moore, Phillip Mulherin, Angus McBryde, Ambrose McGee, Robert McKay, R. M. Pollitzer, Julian P. Price, Warren Quillian, Hines Roberts, Keitt H. Smith, D. Lesesne Smith, Jr., J. LaBruce Ward, William Weston, Jr., J. Warren White, George Wilkinson and Owen H. Wilson.

"In the summer of 1920, two outstanding and bighearted men, both physicians, both fathers—one of four, the other of five children—both specialists in child care, chanced to be returning to their summer homes in North Carolina from Louisville, Kentucky, where they had attended a medical meeting. The train was very late so they had a long time for talking.

"Dr. D. Lesesne Smith, Sr. of Spartanburg, South Carolina and Saluda, North Carolina, and Dr. Frank Howard Richardson of Brooklyn, New York and Black Mountain, North Carolina exchanged ideas and discussed problems. They became confidential and also discussed dreams and ideals, hopes and ambitions. And right then and there, riding a late train home together, these two men decided to dedicate their own experience, energy and efforts to the cause of better babies in the South.

"The following summer, in response to letters from Dr. Smith and Dr. Richardson, there gathered in Saluda a group of men

from every southern university and center of medical education in the South. These men were famed for their accomplishments in their practice in the diseases of children. They came together at their own expense and organized a teaching center, calling it the Southern Pediatric Seminar — a postgraduate summer course of two weeks in methods of diagnosis, prevention and treatment of diseases of children.

"To date, more than 1500 practicing physicians from the states of Alabama, Virginia, North and South Carolina, Georgia, Florida, Mississippi, Louisiana and Tennessee have attended the seminar," and faculty members continue to attend at their own expense, carrying on as before even though the senior Dr. Smith is deceased.

"The topics discussed are varied; as, for example, tuberculosis, child behaviour problems, practical psychology, allergy, rickets, diarrheas, convulsions, nutrition, whooping cough, pneumonia, otitis media, and even lowly impetigo and common itch. In short, if there is anything any doctor wants to know about a child—sick or well, upset, spoiled or stubborn, afflicted or injured—the chances are he can get the answer from

someone in Saluda during the two weeks of the seminar."

There is no place in America more beautiful than the Land of the Sky, where Saluda is, in the very heart of the Blue Ridge Mountains. Aside from the opportunity afforded for postgraduate instruction, there is the privilege of rest and relaxation in the midst of the most inspiring mountain scenery to be found anywhere. Doubtless many Alabama physicians will want to have both pleasures at the 1949 seminar.

ALABAMA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

Formation of the Alabama Academy of Ophthalmology and Otolaryngology was effected in Montgomery April 20, and the following officers were elected: Dr. Frank H. Clements, Birmingham, Chairman; Dr. P. P. Gilchrist, Mobile, Chairman-Elect, and Dr. Karl B. Benkwith, Montgomery, Secretary-Treasurer.

Scientific papers were presented by Dr. John K. Lingo, Mobile (Allergy in Otolaryngology) and Dr. John A. Keyton, Dothan (Hormone Therapy in Cataracts).

TRANSACTIONS OF THE ASSOCIATION

1949 SESSION

(Concluded)

Last Day, Thursday, April 21

The Association, sitting as the Board of Health of the State of Alabama, was called to order at 9:00 A. M. by the President, Dr. J. Paul Jones.

The report of the Board of Censors was rendered by the Chairman, Dr. E. V. Caldwell, Huntsville.

THE SEVENTY-FIFTH ANNUAL REPORT OF THE STATE BOARD OF CENSORS, INCLUDING ITS REPORTS AS THE STATE BOARD OF MEDICAL EXAMINERS AND AS A STATE COMMITTEE OF PUBLIC HEALTH

E. V. Caldwell, M. D., Chairman

The State Board of Censors, in conformity to constitutional mandate, has the honor to submit to this Association its Seventy-Fifth Annual Report.

A RESOLUTION

Dr. Kossuth A. Mayer of Lower Peach Tree in Wilcox County died on March 3, 1949 as the result of a heart attack. Dr. Mayer was a native of Lower Peach Tree, where he was born on September 8, 1877, and on graduation from the Memphis Medical College in 1900 he returned to his native community to practice. He was one of the vanishing school of general practitioners who was everything to all people over a wide section of the state for almost half a century.

Loved by his patients not only as physician but as counsellor and friend, he also served his state in a wider field. He was active in politics, not for himself but for causes he believed in, and was active in the affairs of this Association throughout the years. He was elected to the Board of Censors in 1936 and served until his death. His judgment was sound and his influence on Association policies was always felt.

Resolved, That the Medical Association of the State of Alabama, with a keen sense of loss to this body and to the people of Alabama, does hereby recognize the void left by the passing of our distinguished colleague, and be it further

Resolved, That this resolution be printed in full in the Journal of the Medical Association of the State of Alabama and that a copy be furnished his family.

THE PRESIDENT'S MESSAGE

The President's Message gives a small indication of the multitude of demands made upon the President of this Association. His work in connection with regional meetings, with the meetings of the Medical Service and Public Relations Committee and the Health and Medical Care Council of Alabama have taken him all over Alabama, and, in addition, he has attended various meetings of the American Medical Association in Chicago, and meetings of the Committee on Rural Medical Services in Chicago and Washington. The Board heartily commends the President for his fine year's work and for his devotion to the duties of his office.

The President, in his Message, pays tribute to many of this Association and in a scholarly manner has presented many of the problems facing the medical profession today. He made certain recommendations which the Board would like to deal with separately.

1. That the Constitution of the Association be amended to provide for a President-Elect. As an amendment to the Constitution of this Association this matter must lie over for a year. To carry out the intent of this would require revision of Article VIII, Sections 1, 2, and 3.

2. Report of the Committee on Maternal and Child Health. The President's recommendation that the physicians of a county assume responsibility for providing prenatal care is concurred in by the Board.

3. Legislative Program of the Association. Elsewhere in its report the Board lists a series of objectives for legislative action this year. The President, in his Message, covers many of these same objectives and, in addition, he urges the extension of prepayment insurance to reach indigent and low income groups. He calls attention to the voluntary health insurance plan as presented to Congress by a group of Senators led by Senator Lister Hill of Alabama. The exact details as to how this program could be carried out might require some revision of this bill. The Board feels, however, that Senator Hill is to be congratulated on presenting a bill, which, in principle, is in accord with the objectives of the American Medical Association, and which proposes the extension of voluntary prepayment insurance plans rather than a government sponsored compulsory program. In his introduction of the bill Senator Hill states:

"We believe the present system of medical care has been too valuable, too effective and too useful through the years to throw it aside for a new

system which might not work. We believe it is the course of wisdom first to examine our existing health and hospital and medical resources; then proceed with the building and strengthening of them where it is necessary to bring adequate health care to all the people. The last thing we want in this country is an abundance of poor hospitals and poor medical care."

The Board heartily concurs in the sentiments expressed in this bill. The principles of local self government by states, the freedom of choice of both the people and the medical profession and its auxiliaries, and the opportunity it leaves to the people to change if it does not work, recommends it to the profession and the Board recommends that the Association inform Senator Hill of its endorsement of the fundamental principles of freedom of Senate Bill S-1456.

The Association concurred in the several expressions of the Board.

REPORTS OF THE VICE-PRESIDENTS

The reports received from each of the Vice-Presidents indicate that they have devoted much time and thought to the affairs of the Association. Regional meetings have been held in each district with outstanding medical programs presented. The attendance in some instances was not as good as it should have been and it is disappointing to the essayists and to the sponsors of a meeting to have a small turn-out. The Board wishes to commend the activities of the four Vice-Presidents and urges the members to study their reports.

The reports of the Vice-Presidents were adopted.

REPORT OF THE SECRETARY-TREASURER

The Secretary's report indicates that as of April 1st there were ninety-seven more physicians members of the Association than on April 1st a year ago. This increase in membership is a healthy indication of the interest of physicians in organized medicine. The recommendation of the Secretary that the annual meeting dates be changed so that the first day of the meeting is on the third Thursday of April instead of the third Tuesday is concurred in by the Board. It is recommended therefore that the ordinance entitled, "Sessions of the Association and Order of Business Therein," be amended in the following particulars to read:

Section 1. That the sessions of the Association shall comprise three days, Thursday, Friday, and Saturday; the third Thursday in April being the first day of the meeting.

Section 2. That the Association shall be called to order by the President at nine o'clock on Thursday morning of the first day.

The Secretary recommends the formation of an Advisory Committee to be charged with the duty of selecting one name to be forwarded to the American Medical Association as Alabama's nominee for the general practitioner's award. The Board recommends that this selection be made by the President of the Association in consultation with the four Vice-Presidents.

The audit reveals that the Treasurer has correctly handled the finances of the Association, and that its financial position is sound.

The Board recommends the approval of the report of the Secretary-Treasurer.

The recommendations of the Secretary-Treasurer were approved, as was his report as a whole.

COMMITTEE OF PUBLICATION

The continuing rising cost of production has finally reached the point where the Journal is no longer showing a profit. The Journal, however, is filling a very definite need, and the Board commends the Editorial Staff and the various contributors. It recommends the adoption of the report.

The report was adopted.

REPORTS OF COMMITTEES

MEDICAL SERVICE AND PUBLIC RELATIONS

The program sponsored by this committee and financed by the dues each of you pay has made remarkable progress this past year. A full-time director in the person of Mr. Wm. A. Dozier, Jr. has been employed; an office has been set up; a program adopted and a real beginning made in carrying out the objectives outlined. A poll of the physicians of this state revealed almost unanimity of opposition to any program of national health insurance and this poll strengthened the hands of the committee in its work.

The committee recommends the adoption of the recommendations proposed by the Health and Medical Care Council of Alabama with the addition of one further proposal, namely: "That there should be a legislative appropriation to provide vocational education for the training of practical nurses at the Trade Schools of Alabama." The Health and Medical Care Council, at an all-day meeting, drew up certain recommendations dealing with major health problems in Alabama. The reports were made in the form of recommendations covering four aspects of these problems:

1. Ways of getting hospital care and medical services extended to more people.
2. Recruitment, training and placement of personnel for medical service in Alabama.
3. Inspecting, grading, and licensing of hospitals in Alabama.
4. Education and participation of lay and professional groups in the planning and operation of county health and medical care councils.

Your Association was represented on the panels that drew up these recommendations and the Board has carefully reviewed the contents. It unhesitatingly recommends approval of the program of the Health and Medical Care Council of Alabama.

The committee endorses the proposal to have a University School of Nursing and also supports the training of practical nurses in the Trade Schools. It feels that the two physicians on the

Board of Nurse Examiners and Registration should be selected from a group nominated by this Association.

The committee recommends two legislative changes to provide for:

- (1) An increase in workmen's compensation allowance, and
- (2) To provide for liens for medical and surgical treatment and hospital care of persons injured in accidents as a result of the negligence of any other person or corporation.

The Board commends the committee for its obvious devotion to the interests of the Association and recommends the adoption of the report.

The Association concurred in the Board's recommendation.

MENTAL HYGIENE

The activities of a mental health program by the Health Department has given stimulation to the whole mental health program. Working in conjunction with this committee, the faculty members of the Medical College and the staff officers of the Alabama State Hospital for Mental Disease a coordinated program is envisioned.

The Board recommends the adoption of the report.

The report was adopted.

MATERNAL AND CHILD HEALTH

The attention of the Association is directed to the work done by this committee this past year. The exhibit at this meeting has placed squarely before you the facts with regard to maternal mortality in each county. The counties with the worst record are counties with high Negro populations and with few physicians. The committee suggests that some form of subsidy is necessary in these areas to meet the need. The Board feels that the expansion of hospital and health center facilities may answer some of the needs, but that a complete answer must await this and then an acceptable plan of furnishing care through a prepayment insurance program.

The Board concurs in the recommendation for licensure and inspection for Alabama hospitals, and the recommendation for antenatal clinics in every county.

The Board endorses the report of the committee.

The Association concurred in the expression of the Board.

CANCER CONTROL

The most important recommendation of this committee is the one pertaining to proposed legislation. Under the proposed plan attempts would be made to get as many adults, and more specifically women, as possible in to their physician for an annual examination for cancer detection. The State Health Department would be charged with furnishing examination forms and with arranging for laboratory service and for the

examination of those unable to pay for private examinations. The Board feels that any program that will find cancer early should be supported. The Board also concurs in the recommendation that increased funds be sought for the support of cancer clinics. The attention of the Editor of the Journal is called to the suggestion of one issue yearly on cancer.

The Board recommends approval of this report.

The report was approved.

POSTGRADUATE STUDY

For the past two years seminars have been held at Mobile and have proven very valuable. The committee is now recommending, however, that, for the benefit of physicians in the more rural sections, postgraduate assembly groups be formed with the Medical College of Alabama furnishing the lecturers at these assemblies. It is proposed that the committee be empowered to pay travel expenses and an honorarium for those participating.

The Board recommends that the Association continue its grant of \$1,000.00, with the State Health Department matching it if possible; that if the plan is successful this year and an increase is needed, the Board will so recommend next year.

The Board recommends the adoption of the committee's report.

The Association adopted the Board's recommendation.

INDUSTRIAL HYGIENE

The report of the committee as to changes needed in the Workmen's Compensation Law is approved by the Board and the adoption of the committee's report is recommended.

The report was adopted.

PHYSICIAN-DRUGGIST RELATIONSHIPS

There was no report from this committee.

ANESTHESIOLOGY

The attention of members of this Association is called to the opportunity available for short or long term instruction in the field of anesthesiology. The committee is commended for its activity and the Board recommends the adoption of its report.

The recommendation of the Board was adopted.

TUBERCULOSIS

This, the first report of a new committee, is an excellent summary of the needs of the state in the field of tuberculosis. The committee recommends support for a program to construct additional hospital beds, and for increased state subsidy toward the maintenance of such tuberculosis beds. Increased funds so that the case finding program now under way could be speeded up is another committee recommendation. The Board concurs in these recommendations and urges the support of the Association. Another recommendation that there be a section for surgical disease

of the chest at the Jefferson Hospital is called to the attention of the officials of the University of Alabama Medical School.

The Board recommends the adoption of the committee's report.

The report was adopted.

COMMITTEE ON TRAINING DOCTORS' ASSISTANTS

Early in 1948 a committee, composed of two members of the Committee on Medical Service and Public Relations, Dr. Roy R. Kracke, representing The Medical College of Alabama, and Dr. A. C. Jackson, representing the Alabama Hospital Association, was appointed and requested to study the question of opening a school for training doctors' assistants and bring the matter before the Board of Censors of the State Medical Association. This the committee did in February 1948 and, after a lengthy discussion, the Board requested this same committee to study this question further and report back to the Board at its annual meeting in April 1948. Just immediately before the Association's annual meeting this was done and the committee presented resolutions recommending that the plan for training doctors' assistants under the auspices of the Association was feasible, practical and should be done. The Board at that time, after study of the committee's report, and a resolution from the Committee on Medical Service and Public Relations recommending it, felt that the lack of harmony in this effort made it expedient that study of this matter should be extended another year and the committee requested to extend its study and report back to the Board at its April 1949 meeting. It was so recommended to the Association, and the recommendation was adopted.

This committee still recommends that the State Medical Association endorse, approve and encourage the training of doctors' assistants, and further recommends that "The Association institute a program of training under its own auspices, and that certificates of proficiency be granted by the Association itself." Toward that end it is suggested that a standing committee be appointed to be known as the Committee for Training Doctors' Assistants, which would be authorized and empowered to proceed with this educational venture on behalf of, and acting for The Medical Association of the State of Alabama, and further, that if the Board of Censors and/or the Association feels that the Medical Association is not an agency for the training of medical personnel, the committee recommends that the Association draw up a resolution to the effect that doctors' assistants should be trained by educational agencies already established. The committee then recommends specifically that such resolution be directed to the Medical College of Alabama with a request that this institution launch a program for training doctors' assistants at the earliest possible date.

The Board feels that the Association is not an agency for training medical personnel, and recommends that the Association endorse the train-

ing of doctors' assistants and other auxiliary medical personnel by existing educational institutions, and requests the Medical College of Alabama to begin this training at as early a date as it is feasible.

The Association concurred in the views expressed by the Board.

UNEXPENDED BALANCE OF \$5,000.00 TO COMMITTEE ON MEDICAL SERVICE AND PUBLIC RELATIONS

It is recalled that the Association appropriated \$5,000.00 to the Committee on Medical Service and Public Relations to set up the machinery of public relations until the increased dues of the Association could be collected.

There is an unspent balance now in the hands of that committee and the committee requests that it be allowed to retain the unspent balance to continue its efforts.

The Board so recommends.

The recommendation of the Board was adopted.

ILLEGALS

In view of the fact that there are innumerable and increasing illegal practitioners of various types in the state, and the widespread pressure that some steps be taken to check and remove this situation, and the unwillingness of local medical societies to take the lead in the prosecution of these illegals, and the flagrant disregard of the laws governing the practice of medicine by these illegals, your Board recommends that \$5,000.00 be appropriated by The Medical Association of the State of Alabama for the payment of legal fees and expenses for the prosecution of illegals in the state under the direction of the State Board of Medical Examiners and the Attorney General of the State of Alabama.

The Board's recommendation received the Association's unanimous endorsement.

PHYSICIANS AND THE ARMED SERVICES

The shortage of physicians in the armed forces and the need for younger men who have not previously seen service has been emphasized by the various services and by the American Medical Association. If an extension of the Selective Service Act to include physicians beyond the age of twenty-six is to be avoided, physicians should volunteer in sufficient numbers to fill the minimum needs of the services. Your Board feels that physicians who obtained part or all their medical training under government aided programs, and who have not been on active duty, should be the first group to respond. American medicine has always met the demand made upon it and it is felt that now will be no exception.

AMERICAN MEDICAL ASSOCIATION ASSESSMENT

The Treasurer, in his report, indicates that, as of April 18th, 795 members of this Association have paid the \$25.00 assessment requested by the American Medical Association. This is the first time in history that the American Medical Association has asked its membership for special funds

and the need for these funds now should be apparent to all of us. If the American people are to be fully apprised of what medicine is accomplishing today and of the potential dangers in any scheme of government supervision, an organization, such as the American Medical Association, must assume the responsibility. Your Board urges that every member of the Association give his support to the American Medical Association's program, and that every effort be made to secure complete backing by our profession.

LEGISLATION

At the time of this meeting it is impossible to predict what action will be taken by the Congress with relation to medical and health bills now pending. The Board urges that all members keep themselves informed of developments, and be prepared to express an opinion where indicated.

The State Legislature has not met since the last meeting of this Association, but another session is in prospect very shortly. There will be advocated at this session a good many matters affecting the medical profession and the Health Department. Your Board feels that the following should receive the support of the medical profession as a whole:

1. An outright state appropriation toward the construction of hospitals and allied facilities.

2. A change in the Workmen's Compensation Laws to increase the amount available for hospitalization and medical care.

3. A proposal to permit the State Board of Health to fix salaries of its professional personnel. The present limitation of \$5,700.00 prevents the Health Department from procuring the services of needed physicians.

4. Expansion of the cancer and tuberculosis programs, as well as some expansion in the general health appropriation.

5. A proposal to provide for the licensing of all hospitals and nursing homes in the state.

6. An increase in the facilities for medical, nursing and dental education; more scholarships for students in these facilities.

7. A new central laboratory is an urgent need. Therefore a request for a direct appropriation for this purpose will be made.

The Board feels that all these proposals are sound and urges active support on the part of individuals.

REPORT WITH REGARD TO FEDERAL AGENCIES

Financial support from the Federal Government continues to be a continuing major factor in health programs in Alabama. Through the Children's Bureau comes most of the funds expended on maternal and child health programs, as well as funds for special demonstration projects, such as the delivery service at Tuskegee. From the United States Public Health Service comes grants for various specific projects, in addition to grants for general public health work. Among these specific projects are the programs

on hospital construction, cancer, tuberculosis, venereal disease, mental hygiene, typhus fever, and malaria. Expanded funds will probably be available for certain of these specialized programs, and a beginning will also be made in heart disease and in stream pollution. Working relationships with the federal agencies concerned have continued to be good with the federal groups working largely in an advisory capacity. The Board concurs in the policy of state administration of all health programs, and appreciates the attitude of the United States Public Health and the Children's Bureau in this regard.

GORGAS ESSAY CONTEST

The Board recognizes this movement as being highly conducive to the locating and development of unusual talent which may be directed toward the development of the resources of our state, but does not recommend an appropriation by the Association, and commends it to any and all individual members who desire a membership.

RESOLUTIONS

FROM HOSPITAL SERVICE CORPORATION OF ALABAMA

RESOLVED, That Hospital Service Corporation of Alabama go on record as favoring and urging the passing of the voluntary health insurance bill S-1456, and that copies of this resolution be sent to the Alabama Congressmen and Senators, and to Dr. J. P. Jones, President of the Alabama State Medical Association, and to Dr. D. G. Gill, Secretary of the State Board of Health."

The resolution deals with Bill S-1456, which was dealt with by the Board in its comments on the President's Message, and needs no further action.

BY COMMITTEE ON TUBERCULOSIS

"Whereas, It is evident that the state appropriation for the care of tuberculosis patients is completely inadequate, either to provide a sufficient number of hospital beds to treat and isolate cases of this disease or to maintain existing facilities to a reasonably proper medical standard, Alabama, in this respect, lagging far behind all the other states of the South and of the Nation, therefore be it

"RESOLVED, By the Medical Association of the State of Alabama, that we respectfully petition the Legislature of the State to substantially increase the appropriation for the care of tuberculosis patients, and to assume, on behalf of the State, a larger share of the responsibility for this public health problem."

The Board recommends the adoption of the resolution.

The resolution was adopted.

BY DR. SEALE HARRIS

WHEREAS, When the Constitution of The Medical Association of the State of Alabama was written by Dr. Jerome Cochran, the greatest medical organizer of all time, it provided:

Article XV, Section 1, County societies when organized under constitutions and by-laws approved by the Association shall be entitled to charters issued by the Association in such form as it may prescribe.

Section 2. Graduates of reputable medical colleges shall, under such terms as may be prescribed by the Association, be eligible to membership in county medical societies.

Section 3. County medical societies shall, subject to the approval of the Association, adopt rules and regulations for their own government, shall elect their own officers, and shall perform all needful acts not inconsistent with the constitution or ordinances of this Association, and

WHEREAS, Dr. Cochran, in his wisdom, realizing that, from time to time, it would be necessary to change the ordinances controlling the government of county medical societies, he provided in the Constitution methods for making the needed changes.

Article XXI, Section 1. The Association shall have the right to adopt such ordinances and by-laws for its own government and that of the county societies as it may deem proper.

Any of said ordinances or by-laws may be amended, suspended, or repealed at any annual session of the Association; and

WHEREAS, The method of rejecting an applicant for membership in a county medical society if he receives three adverse secret votes, or three black balls, as adopted about seventy-five years ago seems no longer necessary; and

WHEREAS, Applicants for membership in county medical societies in other states are elected if two-thirds of the members voting cast their ballots favorable to them, therefore

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That any physician who possesses a certificate of qualification granted by the State Board of Examiners, and whose name has been recorded in the office of the probate judge, shall be elected to membership in a county medical society if two-thirds of the members casting their ballots are favorable to his election, when his application for membership is under consideration.

Section 2. That articles in the constitution, by-laws or ordinances of the county medical societies, which are component parts of The Medical Association of The State of Alabama, that conflict with this ordinance shall be declared null and void.

This resolution would necessitate a change or amendment to the Constitution of the State Medical Association, which, under Article XXI, Section 2 of the Constitution, has to lie over one year before action can be taken on it, and the Board so recommends.

It was so ordered.

Part I of the Board's report was adopted.

PART II

REPORT OF THE BOARD OF CENSORS AS A
BOARD OF MEDICAL EXAMINERS

In this field of its activities the Board submits the following statistical report for 1948:

Medical certificates of qualification granted	195
(a) Physicians passing examinations June 22-24, '48	16
(1) Certificates issued	14
(2) To be issued after internships	2
(b) Certificates issued after completing internships Jan. 1, '48	15
(c) Certificates issued after completing internships July 1, '48	41
(d) Physicians granted reciprocity	112
(e) Diplomates of the National Board of Medical Examiners licensed	13
(f) Chiroprody renewal licenses issued	29

CERTIFICATES OF QUALIFICATION GRANTED
JUNE 1948 APPLICANTS

Arnold, Dorothy J.	McPherson, George
Burroughs, Lenward R., Jr.	Murphy, William F., Jr.
	Naramore, M. L., Jr.
Dietz, Carl F.	Petrey, B. D.
Hamilton, Herman N.	Rolls, Karl Reid
May, Charles E.	Rutledge, Guy L., Jr.
McLallen, Clyde D. J.	Smith, G. Hampton, Jr.
McManus, Jos. F. A.	

CERTIFICATES TO BE ISSUED AFTER ONE YEAR OF
SATISFACTORY INTERNSHIP

Hodo, John B.	Weaver, Davis C.
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CERTIFICATES GRANTED APPLICANTS COMPLETING
INTERNSHIPS JANUARY 1, 1948

Allgood, Homer W.	Kessler, William H.
Bell, Palmer H.	McDonald, William B.
Bryan, Robert M.	Pepper, Harold R.
Burnett, James M.	Pierson, Malcolm G.
Crook, Donald H.	Potter, Maxwell G.
Folsom, Walter C.	Praytor, Hugh B., Jr.
Gilbert, Marvin	Wiley, Homer Paul
Hall, David M.	

CERTIFICATES GRANTED APPLICANTS COMPLETING
INTERNSHIPS JULY 1, 1948

Beckham, Louis E., Jr.	Kennedy, Hughes, III
Branyon, Edgar W., Jr.	Kirkland, Theo N., Jr.
Bray, Maury, Jr.	Lightfoot, P. M., Jr.
Carlton, Lawrence E.	Livingston, Wiley K.
Carter, John J.	Lofton, Joseph E.
Chisolm, Jack T.	Moseley, John H.
Christopher, Ralph C.	Paine, M. D., Jr.
Davis, Joseph S.	Parker, Marvel V.
Davis, Samuel D., Jr.	Patton, Ira B.
Denson, Joe W.	Powell, Harry C., Jr.
Dudley, Edward A., Jr.	Rittelmeyer, Louis F., Jr.
Elrod, Bruce A.	Vaughn, Max Eldred
Findley, Herbert L., Jr.	Wadson, Ralph W., Jr.
Gilliland, May	Waldo, Frank Bell
Gilmore, Keith W.	Waldrop, Edwin G.
Hagood, Martha	Waldrop, Sam D.
Haisten, Maurice W.	Welty, Myron J.
Hamilton, Virginia	Whiting, James A.
Harris, John Wesley	Wimberley, N. A., Jr.
Hawkins, William F.	Wingard, Christian, Jr.
Jones, James M., Jr.	

RECIPROCITY APPLICANTS RECEIVED DURING THE
CALENDAR YEAR OF 1948

Balovich, Vernon N.—La.	May 5, '48
Barker, Martha D.—Miss.	Apr. 5, '48
Bernhardt, Herman—N. Y.—	Dec. 15, '48
Bonney, Robert T.—Miss	Nov. 16, '48
Boozar, Irwin Monroe—Ga.	May 25, '48
Boswell, Brown H.—La.	Nov. 2, '48
Brister, Samuel L.—Miss.	Feb. 4, '48
Brown, Claude Lamar, Jr.—La.	Feb. 4, '48
Brown, James Mackey—Md.	Nov. 2, '48
Callaway, Eugene, Jr.—Va.	Apr. 14, '48
Campbell, Nicholas M.—La.	Aug. 4, '48
Carter, A. Z., Jr.—La.	Oct. 11, '48
Cassidy, Francis P.—La.	Feb. 27, '48
Childers, Stanley G.—Okla.	Nov. 2, '48
Claiborne, Earl R.—Mo.	Sept. 30, '48
Clark, James H.—Miss.	Aug. 16, '48
Cline, Wade M.—Ga.	June 28, '48
Cockerham, Howard L., Jr.—Miss.	June 18, '48
Cohn, Sidney A.—La.	Aug. 4, '48
Colley, Jesse Hall—La.	Aug. 30, '48
Collins, Arthur Carl—N. B. M. E.	Jan. 23, '48
Comer, John Fletcher—Miss.	July 5, '48
Corson, Wesley C.—Mo.	Apr. 26, '48
Croom, William C., Jr.—Mo.	Mar. 11, '48
Dardis, Walter T.—Okla.	June 11, '48
DeBaKey, Ernest G.—La.	Feb. 10, '48
Dempsey, Walker—N. B. M. E.	Sept. 27, '48
Denton, Nathan C., Jr.—La.	May 27, '48
Dismukes, Henry M.—La.	Aug. 24, '48
Dodds, Richey F.—N. C.	Nov. 15, '48
Donald, John Watson—Tenn.	Nov. 2, '48
Drake, Harold Fanning—N. B. M. E.	Aug. 17, '48
Duff, Oliver Adkins—La.	Mar. 15, '48
Eckart, Emile Peter, Jr.—La.	Feb. 4, '48
Fitts, Edgar Marlin—Ga.	Nov. 2, '48
Fonde, George H., Jr.—N. B. M. E.	Dec. 15, '48
Gewin, Henry Monnier—Tenn.	Aug. 4, '48
Gibboney, Harry S., Jr.—Ga.	May 18, '48
Gillespy, Robert Rose, Jr.—La.	Aug. 24, '48
Goldfarb, Paul M.—La.	Apr. 13, '48
Goldstein, Howard J.—Pa.	Mar. 19, '48
Grier, Robert C., Jr.—Tenn.	Aug. 20, '48
Hackworth, Loyre E.—N. B. M. E.	June 21, '48
Halfpenny, Violet—La.	Nov. 2, '48
Hamilton, John Roger—Md.	June 11, '48
Hanks, Boyce Loring—N. B. M. E.	Aug. 30, '48
Harner, Joseph Winfred, Jr.—Ga.	Nov. 16, '48
Harris, Robert Otis, III—La.	July 2, '48
Harvey, James DeLoach—Ga.	July 2, '48
Hays, Jack Ross—La.	May 10, '48
Hendon, Robert Greene, Jr.—La.	Apr. 23, '48
Herndon, Harry Virgil—La.	June 11, '48
Hodges, James Paschall—Tenn.	May 20, '48
Hodges, William Wilson—Mo.	Apr. 26, '48
Holt, LeRoy Lyon—Ga.	Aug. 11, '48
Howick, John Robert—N. B. M. E.	July 2, '48
Hughes, Owen Floyd—Ohio	July 8, '48
Huskey, Aubrey L.—Tenn.	June 18, '48
Hayman, Jack—La.	Sept. 14, '48
Igou, Rufus, Jr.—Ga.	Mar. 16, '48
Joffe, Irwin—La.	Feb. 10, '48
Johnson, Frank W.—Tenn.	July 19, '48
Johnson, Howard C.—Tenn.	Mar. 17, '48
Johnson, Robert H.—Texas	Sept. 21, '48

Keller, Frank G.—Mo.	Dec. 10, '48	Blotzer, John Sheldon	Mobile
Kesmodel, Karl F., Jr.—La.	Nov. 2, '48	Carlisle, Alexander Randolph	Montgomery
King, Thomas Cobb, Jr.—Va.	Oct. 4, '48	Carter, Harry Shipley	Florence
Klenk, Leo Francis—La.	May 17, '48	Clark, George Elwood	Birmingham
Koffler, Irving Aaron—Mo.	Dec. 10, '48	Cooper, John Marvin	Birmingham
Lathan, John Thomas—S. C.	July 19, '48	Crowley, Coy Hiram	Mobile
Lauderdale, James A., Jr.—Miss.	Mar. 17, '48	Crowley, Gentry Ballew	Huntsville
Lauter, Monte Albert—Cal.	Feb. 13, '48	Daniels, John Edgar	Montgomery
Lawrence, William E.—Mo.	Nov. 2, '48	Davis, Edith M.	Birmingham
March, George M.—La.	July 12, '48	DeViso, Viola	Anniston
Marvin, Theodore R.—Ohio	Oct. 6, '48	Draper, William Loyt	Birmingham
Mason, Miles H., Jr.—Ga.	Feb. 4, '48	Edwards, Charles Mortimer	Birmingham
Mayo, Earl A., Jr.—Tenn.	June 11, '48	Kelley, Mildred L.	Tuskegee Institute
McBryde, Robert R.—Ga.	Dec. 1, '48	Leighty, Fred Granville	Birmingham
McDowell, Walter, Jr.—La.	June 22, '48	Miller, John	Mobile
McKaig, Alan Manning—N. B. M. E.	Aug. 4, '48	Oxford, Herman Ross Arnold	Tuscaloosa
Meadows, Edward R.—La.	Jan. 23, '48	Pearson, Joe Price	Birmingham
Meyers, Charles Dixon—La.	Jan. 23, '48	Peterson, Bessie Cook	Birmingham
Miller, Earl V.—Tenn.	June 24, '48	Plevine, Erich Herman	Birmingham
Mims, William B., Jr.—Ga.	June 11, '48	Riccio, Peter Domenick	Bridgeport, Conn.
Mitchum, William Ransome, Jr.—Ga.	Dec. 15, '48	Rollings, Harry Hartupee	Montgomery
Moody, Marcus Dee—S. C.	Jan. 20, '48	Sealy, Ariel Lewis	Montgomery
Moore, Ernest M., Jr.—Kan.	June 18, '48	Sealy, Elizabeth Pepperman	Montgomery
Mosby, Thomas Lee—Va.	Aug. 30, '48	Silverman, Isidor	Birmingham
Murchison, G. C., Jr.—N. B. M. E.	Aug. 4, '48	White, Juddie Benjamin	Birmingham
Nelson, Robert, Jr.—Ga.	Aug. 16, '48	Wright, Thomas Leolin	Selma
Nelson, Thomas George—Tenn.	Jan. 20, '48		
Owen, Alfred Payne—La.	Aug. 24, '48		
Pace, Bedford Forrest, Jr.—Tenn.	Jan. 5, '48		
Pardue, William O., Jr.—Pa.	May 17, '48		
Parlante, Vincent J.—N. B. M. E.	Feb. 20, '48		
Prince, William J.—N. B. M. E.	Jan. 20, '48		
Pritchard, Clarence D.—Miss.	Feb. 3, '48		
Reid, Joel Wesley—Tenn.	June 22, '48		
Reynolds, Walker, Jr.—Va.	Jan. 14, '48		
Riser, Arthur Franklin—Ga.	May 28, '48		
Robertson, William Craig—Ga.	May 28, '48		
Rogozen, Alexander—Cal.	Feb. 4, '48		
Ross, Carlos James—Va.	Aug. 9, '48		
Royal, Arnold—La.	Jan. 5, '48		
Salter, Paul Pullen, Jr.—N. B. M. E.	June 11, '48		
Scanlan, Thomas J. D.—Pa.	Dec. 15, '48		
Scott, Walter F., Jr.—Mo.	July 2, '48		
Simmons, Calvin R.—Miss.	Nov. 2, '48		
Sivak, George Charles—Ohio	Apr. 14, '48		
Stanley, James F.—La.	Aug. 4, '48		
Stone, Robert Edwards—N. C.	Aug. 4, '48		
Tullivan, Daniel F.—Mo.	June 11, '48		
Terry, Charles David—Kan.	Aug. 4, '48		
Thomas, James Henry—N. B. M. E.	Sept. 15, '48		
Thomas, Perry King, Jr.—Miss.	Sept. 30, '48		
Tucker, William H.—Tenn.	June 11, '48		
Turner, Isabel Buford—Ky.	Sept. 1, '48		
Wallace, Grady Monroe—Tenn.	Oct. 11, '48		
Watt, Lucille—Ill.	Aug. 24, '48		
Wear, John Edmund—Ill.	Aug. 16, '48		
Wert, Earl Baker—Pa.	Oct. 18, '48		
White, Titus Lee Roy—Tenn.	June 11, '48		
Williams, Reddoch E., Jr.—Ga.	Apr. 14, '48		
Woodall, William M., Jr.—Tenn.	June 21, '48		
Zailsky, John Edward—N. Y.	Jan. 14, '48		

Part II of the Board's report was approved.

PART III

REPORT OF THE BOARD OF CENSORS AS A STATE COMMITTEE OF PUBLIC HEALTH

D. G. Gill, M. D.
State Health Officer

PREFACE

When health conditions are improving it is a pleasant privilege to report such improvement and this applies to the calendar year 1948. The death rate of 8.5 per 1000 population has only been lower on two occasions in 37 years' experience. With an aging population it is logical to expect that this low rate cannot continue. Births were again at a high level, being exceeded only by 1947 which was the peak year in our recorded history.

Encouraging statistics in relation to these births were a new low rate of maternal mortality, only a slight rise in its infant mortality rate and a new low in the stillbirth rate.

Marked increases in deaths due to diseases of the heart and to cancer are evident and emphasize the importance of these in the over-all death statistics. Reductions in deaths due to pneumonia and tuberculosis are encouraging.

In the field of communicable diseases, 1948 was fairly satisfactory. Poliomyelitis was above normal and diphtheria showed a marked increase. The lack of immunization during the war years was undoubtedly responsible for the flare-up in diphtheria and again emphasizes that there can be no let-up in this program. Malaria, on the other hand, reached an all-time low and has become a minor disease. Prophesying that it will remain so is a hazardous undertaking. The syph-

CHIROPODY RENEWAL LICENSES ISSUED FOR 1949

AuCoin, William John	Mobile
Benitez, George W.	Birmingham
Blotzer, Ellen Louise	Mobile

ilis control program continued at its rapid pace and is reflected in lower death rates and evidence of fewer new infections.

The central office of the Health Department continued to be handicapped by lack of medical personnel. The present limitations on salaries, however, will not attract physicians and particularly physicians trained in public health. Legislative action is necessary to correct this restriction.

BUREAU OF ADMINISTRATION

HOSPITAL PLANNING

During the 1948 calendar year construction was begun on three hospital projects within the state. In each of these cases the sponsor put up two-thirds of the funds necessary, with the remaining one-third being supplied by the federal government under the Hill-Burton Act. Jefferson County Health Center was completed by the end of the year. The personnel of the Jefferson County Health Department moved into the building in October.

Applications were received for state and federal aid in constructing and equipping twenty-seven projects throughout the state. Of this number, thirteen will probably be under construction by June 30, 1949.

Aid was given twenty-seven applicants in preparing their applications, selecting their sites and preparing their architectural drawings. Assistance was given two counties in conducting health education programs. Ground work was done in a number of other counties for the beginning hospital associations, so that those counties might formulate a hospital program for their communities.

The Alabama Hospital Master Plan, prepared originally in 1947, was revised with the projects proposed for the 1947-48 fiscal year. The general hospital bed need was decreased from 7,473 to 7,340. Plans are under way for the construction of county health department buildings for Dallas, Etowah and Sumter counties.

PUBLIC HEALTH EDUCATION

Approximately 610 news releases were issued during the year. The two Montgomery daily papers published 451 stories based upon the 458 sent them. There is no information on the number of such articles used elsewhere. The weekly State Health Chat was distributed by the Associated Press to A. P. papers, as in the past.

The weekly radio talk was broadcast on Thursdays over Station WCOV, in Montgomery, and Station WGWC, in Selma. Time for these broadcasts was given without charge by the stations. They also made no charge for the use of wires between these two cities.

The Film Library continued active. Sixty-three of the 67 county health departments were members at the year's end. As before, bookings were limited to them. However, they were at liberty to loan films to any organizations or individuals they might see fit, on their own responsibility. Film bookings for the year numbered 435.

The public health education program was greatly assisted in 1948, as in previous years, by an unusual measure of cooperation from the agencies upon which it depends for its ability to serve the State Health Department and the Alabama public. In addition to the above-mentioned grant of valuable radio time by the two stations carrying the "Health Is Wealth" programs, the daily and weekly papers have shown a willingness to do everything they could to make the division's work as effective as possible. Thanks to that attitude of helpfulness, there is no doubt that many thousands of Alabamians received information about health who otherwise would not have done so. It is hoped that it proved helpful in preserving their own and their families' health.

As in past years, the radio talks were mimeographed immediately after delivery for distribution as health education material. There have been many requests for them from people both inside and outside the state.

Other public health education activities carried on during the year included the distribution of booklets, editing of the State Health Department's regular annual and special reports, reviewing of books for the Journal of the Medical Association of the State of Alabama, supplying information by correspondence, cooperation with other official and unofficial agencies and, in general, working for the development of a greater health-knowledge and health-consciousness among the people of Alabama.

MACHINE TABULATION

The Division of Machine Tabulation continued during 1948 to act in the capacity of a service division, processing work for the various bureaus and divisions.

As the blood-testing program began retesting counties, the work in this office grew tremendously. Although the blood-testing program as a whole may have slowed down, the job of record keeping and statistics has become more complicated. Because of this, the time spent on this one job far outweighs that spent on any other single job.

With the beginning of the mass T. B. x-ray program, this office was called on to furnish statistics and indexes similar to those furnished for the blood-testing program.

This division continued to prepare the annual statistical tables for communicable diseases and monthly venereal disease morbidity reports for the United States Public Health Service, State Health Department and county health departments.

Currently reported birth, death, marriage, divorce and stillbirth certificates were transcribed to punch cards. From these cards statistical reports and indexes were prepared.

Work was begun on the re-indexing of the births reported between the period 1908-1926.

Work was begun on an analysis of the Emergency Maternal and Infant Care Program.

A summary of the monthly reports from each county was prepared quarterly for the director of the Bureau of County Health Work.

The results of certain sanitary surveys were tabulated and reports prepared for counties participating.

COUNTY HEALTH WORK

Functionally, the health program of this state proceeds along two channels, namely, central administration and county organization. Central administration is a 7-bureau setup; county health organization is the sum of 67 county health departments, all functioning on a full-time basis, one for each of the major subdivisions of the state. Central administration delivers a limited number of direct services but for the most part it is a consultative body, working through and with the several county health departments. The statutes give the county health officer sole direction of all sanitary and public health work within the county, including incorporated municipalities. It follows then that, generally speaking, central administration's relation to county organization is primarily an advisory one.

For financing county organization in the fiscal year that ended September 30, 1948 there was available from local sources (county governments and municipalities principally) the sum of \$1,078,887.00, an increase of \$73,665 over the preceding year. In addition, there was a state appropriation of \$317,400.00 and federal grants of an approximately equal amount. These data are referred to only to emphasize the growth, since 1914, of the interest of the state, its counties and municipalities in the protection of the health of their people. It was in 1914 that Alabama's first full-time county health department came into being with local participation of \$4100.00 annually, and when only \$25,000.00 was available from all extra-county sources for the protection of the public health. Surely Alabama has gone a long way on the road toward an irreducible death rate, but much remains to be done. A wise public health statesman said that public health is purchasable. Certain it is that the scope of the public health field in Alabama is limited only by the financial ability of the state and its several political subdivisions to engage in the battle of disease extermination.

PUBLIC HEALTH NURSING

Nursing service in the following areas is reported:

1. Recruitment and in-service training of nurses certified to county health departments. In addition to orienting nurses directly to the county of assignment, six nurses were given training of three weeks' duration at the state office.

2. Promotion and improvement of local public health nursing services by providing consultation and supervision for county nurses.

In the interest of above, 238 conferences were held with health officers, nurses and others. One hundred thirty three (133) homes were visited

and 151 visits to patients were observed. Thirty five clinics were observed.

3. In-service education of county nurses:

Twenty-three nurses from 19 counties attended a two-day institute on venereal disease control at the Mid-South Medical Center in Birmingham.

4. Advanced nursing education:

Two county nurses began their study in public health nursing at Peabody College, Nashville, Tennessee.

Six county nurses attended summer workshops at the College of Nursing, Wayne University, Detroit, Michigan, as follows: Four at the workshop on Maternity Service in Public Health Nursing; one at the Workshop on Infant Health Service in Public Health Nursing; and one at the Workshop on the School Health Service in Public Health Nursing. A seventh county nurse attended a summer workshop on Cancer and Its Control at the University of Minnesota, Minneapolis. In addition, one institutional nurse attended the Workshop on Care of the Premature at the University of Chicago Michael Reese Hospital.

5. Consultation to nurses in institutions:

This has been provided in the following clinical fields: maternal and child health, tuberculosis and cancer.

6. Work done in professional organizations in the interest of student recruitment, expansion and improvement of nurse education and improvement of nursing service:

The report of the nursing survey, made in November 1948, discussing the present supply of nurses, the present need and anticipated need in 1953 and 1960, is one of the activities in which division personnel participated.

Exclusive of the Mid-South Medical Center, the State Health Department employed nine nurses during 1948. The director and four assistants were on the consultative level. Three of these assistants were assigned to the following specialties: cancer, maternal and child health and tuberculosis. Of the four staff nurses, three were employed in venereal disease field activities and one by the Tuberculosis Division for diagnostic service.

Sixty-three counties employed a total of 185 nurses in county health work. Forty of these were Negro nurses.

The State Department of Education reported employment of six nurses in the Crippled Children's Division. Mobile and Birmingham Boards of Education reported seven nurses employed. The Metropolitan Life Insurance Company reported five nurses. Visiting Nurse Association of Birmingham reported six nurses. A total of 73 agencies reported 219 nurses employed in public health work. Fifty-five industries reported 134 nurses employed to render service to employees and their families.

COUNTY MERIT SYSTEM

Merit System examinations were administered during 1948 for applicants for positions in county health departments in the following classes: Clerk I and II, Typist I, II and III, Graduate Registered Nurse I and II, Public Health Nurse I, II

and III and Sanitation Officer II and III. For the total examinations given, there were 348 applications. Of that number, 337 were acceptable, 224 appeared for the written examination, 201 made passing grades, and 23 failed the examination. From the 197 names which were placed on eligible lists in 1948, 112 appointments were made. A distinguishing feature of the examination program during 1948 was that examinations in all series were held open continuously. The program of continuous recruitment resulted in more adequate eligible lists and in more satisfactory placement than in previous years.

Revised salary ranges were adopted for the following classes: County Health Officer I and II, Assistant to County Health Officer II, Clerk I and II, Typist I and II, and Graduate Registered Nurse I. The new class of Typist III was adopted.

During 1948 the Merit System Council approved a minor change in the Rules and Regulations and heard one appeal requested by an employee.

VITAL STATISTICS

The 1948 death rate for the people of Alabama was the lowest recorded in the past thirty-seven years, with but two exceptions. The birth rate was the second highest on record, while the number of marriages and divorces showed a sharp decline. Mortality statistics indicate that the infective and parasitic diseases are being brought under control, while the cardiovascular-renal diseases and cancer continue to take a greater toll of lives each year.

During the year the Bureau of Vital Statistics received requests for more than one hundred thousand searches for vital records. This represented an increase of 38 per cent over the previous year's searches. In 1948 incoming mail totaled 148,178 pieces—6,500 pieces more than in 1947. Requests for certified copies and other vital records data and service were continuous throughout the year, reaching a peak during September, when age verification cards were issued for school children. Fees received during the year showed a 27 per cent increase over the previous year's receipts. A total of \$24,565 was paid the Bureau for certified copies. This sum represents 49,130 certificates, not including 19,959 copies issued for use by the Veterans Administration, and not including 35,123 requests for non-certified information for social security, welfare and miscellaneous purposes. The Veterans Administration, Social Security Board, public welfare and many other agencies, public and private, find vital records adequate in establishing claims, for determining eligibility for benefits and for many financial, legal and social considerations. These many facilities are growing in number and are extending their services to an increasing population. Medical and social progress is developing a growing need for statistical information valuable in improving the efficiency and effectiveness of our public health and public welfare programs. The fact that vital records are

also becoming increasingly important in the post-war years as a source of legal proof of American citizenship, age and family relationships is evidenced by the continued growth in the demand for certified copies and for the other services rendered by the Bureau of Vital Statistics.

The State Registrar of Vital Statistics recorded during the year 149,260 original records, plus transcripts of 9,760 divorce decrees. Certificates were prepared and filed in compliance with statutory provisions for 642 adoptions, 405 legitimations and 7,327 delayed records of birth. Original certificates of birth, death, stillbirth and marriage and transcripts of divorce records are received monthly. These are systematically arranged, numbered, indexed and bound in volumes for permanent preservation. A microfilm copy of each birth and death certificate is sent to Washington for use by the National Office of Vital Statistics. Many detailed statistical reports are made on request for research agencies, other bureaus of the Health Department, students, officials of federal, state and local governments, members of the medical profession and voluntary health agencies. A monthly report on accidental deaths, with accidents typed into forty-one categories, is furnished the National Safety Council for use in connection with its accident prevention program. A monthly report of natality and mortality is published in *The Journal of the Medical Association of the State of Alabama*, and a quarterly report is issued to county health departments, county medical societies and other interested organizations and individuals.

Correcting records is a necessity which consumes a great amount of clerical time. During 1948 Bureau personnel processed 7,773 correction affidavits. In other words, approximately one-ninth of all records from which certified copies were made had to be corrected. Attendants at birth and death are responsible for the preparation of vital records, and it is they who must be credited with a vast accumulation of poorly prepared records dating back to 1908, when central registration of vital records was begun in Alabama. As a means of correcting obvious errors and in order to complete records received currently, the Bureau of Vital Statistics mailed out in 1948 6,564 queries to complete and correct death certificates and received 4,551 replies to these. These queries enabled Bureau nosologists to make a more accurate classification of cause of death in 1,704 cases. In order to obtain more accurate information on birth certificates, a photocopy of each birth certificate filed is mailed to the parents, along with a correction blank to be returned with indicated corrections which need to be made. This system works well and contributes to correct and complete records. Prompt querying of death records is essential and every doctor who receives a query relating to a cause of death should give it his immediate attention. The cause of death is too often ill-defined or not given. A measure of this weakness is the great number of deaths that must be listed in the ill-defined and unknown-cause category

of mortality statistics. Diseases of the heart and accidents are causes of death which frequently have to be queried before a specific cause can be coded for statistical purposes. The medical profession cannot afford to discount the importance of public health statistics. The reliability of these statistics depends directly upon accurate and complete birth and death registration.

Continued efforts are being made to improve registration throughout the state. Much field work needs to be done if complete and correct registration is to be attained. One factor which has, in the past, hindered more complete registration was the large number of local registrars, many of whom received only a few dollars for a year's work. These unnecessarily numerous registration districts have caused considerable hardship to undertakers and others who must know in which registration district a death or birth occurs. During the past year considerable progress has been made toward a centralized registration system having the number of registration districts so reduced that the remuneration to each registrar will be sufficient to encourage him to devote more time and effort to solving registration problems in his district. Most county health officers find that a single registrar system gives the best results, although in some cases local conditions make it desirable to retain two or three registrars for the county. At the beginning of the year 1948 there were 710 local registrars throughout the state, but by the end of the year this number had been reduced to 427, a net reduction of 283. During the same period the number of counties having single registrars increased from 12 to 17. This reduction in the number not only makes the registration system work more smoothly. It also reduces the clerical and administrative work necessary to supervise and compensate the local registrars of vital statistics.

TRENDS IN VITAL STATISTICS

Deaths: In 1948 there were 26,198 deaths, with a death rate of 8.5 per 1,000 population, as compared with a rate of 8.2 in 1946 and 8.5 in 1945. The average annual mortality rate for the five-year period, 1943-1947, was 8.7. A provisional report for 1948 showing mortality statistics in detail will appear in an early issue of *The Journal of the Medical Association of the State of Alabama*.

There were 3,197 deaths of infants under one year of age, including 2,213 infants who succumbed during the first month of life. The infant death rate of 38.1 per 1,000 live births was slightly above the rate (36.9) for 1947; however, this rate was well below the five-year average infant mortality rate of 41.7. Premature birth continues to be the chief cause of infant deaths, despite an increased proportion of births with medical attendance and improved facilities for the care of premature babies. There were 1,062 deaths attributed to this cause in 1948.

The stillbirth rate of 28.2 was the lowest on record for Alabama. There were 2,367 stillbirths reported. This rate undoubtedly reflects the benefits of adequate prenatal care and improved obstetrical attention which an increasing number of mothers are currently receiving.

Another index of improved health services was the 1948 maternal death rate, which was the lowest in the state's history. The last eight years have seen a rapid reduction in the number of deaths from puerperal causes. The 1948 rate of 2.3 per 1,000 live births was almost twelve per cent below the 1947 maternal death rate.

More than three-fourths of all deaths reported in Alabama in 1948 were attributed to ten causes. Of these ten principal causes of death, six showed an increase over 1947. Heart disease increased by 427 deaths from 1947 and accounted for almost one-fourth of all mortality. Cancer caused 240 more deaths than in 1947 and 434 more than the five year average. This increase in mortality from heart diseases and cancer is not so alarming as the figures might indicate, however, when we remember that these diseases find most of their victims among persons in the higher age groups and that our increased life expectancies are assuring the presence of more and more elderly people in the population of Alabama. As we bring under control many of the infectious diseases which formerly caused the death of so many of our young people, a higher proportion survive to be struck down in later life by heart disease, cancer and intracranial lesions.

The 1948 mortality rates for four of the ten leading causes of death were below the rates for the previous year. These causes were intracranial lesions, pneumonia, homicide and tuberculosis. The reductions in deaths from tuberculosis and pneumonia, particularly, have been spectacular.

The Ten Major Causes of Death, 1948,
With Rates Per 100,000 Population

	1948		1947		Average 1943-1947	
	Number	Rate	Number	Rate	Number	Rate
Diseases of heart, 90-95	6,410	208.9	5,983	197.2	5,342	180.5
Intracranial lesions, 83	2,669	87.0	2,645	87.2	2,421	81.8
Cancer, all forms, 45-55	2,582	84.2	2,342	77.2	2,148	72.6
Nephritis, all forms, 130-132	1,998	65.1	1,957	64.5	2,051	69.3
Accidents, all types, 169-195	1,925	62.7	1,879	61.9	1,900	64.2
Pneumonia, all forms, 107-109	1,179	38.4	1,188	39.2	1,320	44.6
Premature births, 159	1,062	34.6	1,026	33.8	924	31.2
Tuberculosis, all forms, 13-22	1,003	32.7	1,123	37.0	1,189	40.2
Homicide, 165-168	458	14.9	475	15.7	377	12.7
Diabetes mellitus, 61	412	13.4	361	11.9	349	11.8

Diabetes mellitus had more deaths attributed to it in 1948, but this disease is one of the few causes for which the number of deaths may be overstated because of the method of classification. The International Manual of Joint Causes of Death supplies certain rules for determining the underlying causes when two or more diseases are listed jointly. And, because treatment with insulin may enable a person with diabetes to live for many years, a large number of diabetics die from other diseases which are listed along with diabetes on the death certificates. In these situations joint-cause rules sometimes give precedence to diabetes. The method of classification will be corrected in 1949 with the Revised International List of Diseases and Causes of Death and the new Alabama death certificate form, which give the attending physician a greater role in determining the cause of death for statistical tabulations. Each time a physician completes the cause-of-death statement on a death certificate he is furnishing basic information which eventually provides our mortality statistics. These statistics are only as accurate as the original medical certifications.

The 1948 provisional report shows a decrease from the five-year average for the death rates of

ten out of twelve of the principal communicable diseases. Only poliomyelitis showed an increase, with 18 deaths, as compared with seven deaths from this disease in 1947 and an annual average of 14 deaths from 1943 to 1947, inclusive. Syphilis mortality showed a substantial decrease from 1947, as did that due to malaria, measles, typhus fever and acute encephalitis. Whooping cough deaths decreased almost fifty per cent (from 117 deaths in 1947 to 61 deaths in 1948). However, because of its epidemic nature, the number of deaths from this disease fluctuates greatly from year to year. In 1947 more than half the victims of fatal whooping cough were babies under six months of age. These data indicate the desirability of immunizing all infants before they are six months old. Diphtheria resulted in 37 fatalities during 1948 because of failure of parents to see that all children were immunized against this disease and because antitoxin was not used immediately after onset of the disease. Death seldom, if ever, occurs when the patient receives the proper dose of antitoxin during the first day of the disease. Malaria, measles, typhus fever, typhoid and encephalitis each caused in 1948 less than half the five-year average number of deaths.

Deaths From Certain Communicable Diseases,
1948, With Rates Per 100,000 Population

	1948		1947		Average 1943-1947	
	Number	Rate	Number	Rate	Number	Rate
Syphilis	292	9.5	317	10.4	358	12.1
Influenza	243	7.9	315	10.4	478	16.1
Whooping cough	61	2.0	117	3.9	93	3.2
Diphtheria	37	1.2	30	1.0	44	1.5
Meningococcus meningitis	29	0.9	26	0.9	52	1.8
Poliomyelitis	18	0.6	7	0.2	14	0.5
Malaria	15	0.5	19	0.6	37	1.2
Measles	14	0.5	27	0.9	37	1.2
Typhus fever	14	0.5	16	0.5	30	1.0
Typhoid and paratyphoid	6	0.2	6	0.2	13	0.4
Acute encephalitis	5	0.2	14	0.5	12	0.4
Scarlet fever	3	0.1	2	0.1	2	0.1

Births: The birth rate for 1948 was second only to that for the record-breaking year 1947. There were 83,998 births in 1948, as compared with 87,242 for 1947. This 1948 figure represented 21,700 births more than the annual State total ten years ago (1938). The birth rate in 1948 was 27.4 per 1,000 population.

Marriages and Divorces: The number of divorces granted was smaller than the number for any year since 1943, while the number of marriages decreased more drastically. There were 20,550 marriages (13,292 white and 7,258 colored) and 9,760 divorces. This was 6.7 marriages per 1,000 population and 3.2 divorces. Although the reduction in marriages was due in part to the new Alabama antenuptial blood test law, much of the decline in both marriages and divorces was part of a nationwide return to normalcy after the abnormal increases during the war period.

MATERNAL AND CHILD HEALTH

At last, after several years of just holding our own, 1948 shows definite indications of renewed interest in and reactivation of maternal and child health services. The same number of counties held maternity clinics as in 1947 but the thirty-five counties had four more centers (seventy as compared with sixty-six in 1947). Because of increased efforts, it was expected at the year's end that three more counties would start clinics in January or February of the new year. Child health clinics were held in forty-seven centers in twenty-one counties, an increase of one county and three centers over 1947. Two counties discontinued dental services, but three started new clinics, giving a net increase of one over 1947. Several dental clinics were scheduled to begin in January and February 1949, as a result of greater promotional efforts. In several coun-

ties school children received dental care through organizations other than the health departments.

The State Health Department received a grant from the U. S. Children's Bureau to be used for nonrecurring expenditures for maternal and child health services. With this money several thousand dollars worth of equipment was purchased and given to county health departments to provide facilities for maternity and dental clinics. A portion of this fund went toward helping to equip and maintain a hard-of-hearing program at the Medical College of Alabama in Birmingham. An account of this service will be included in the 1949 report.

Complications of premature birth cause more than fifty percent of infant deaths during the first month of life, and many communities in the state have no facilities to care for premature infants. In an effort to reduce these deaths, the State Health Department distributed twenty-eight approved portable baby incubators to county health departments. These are available to physicians and hospitals on request. The Division of Nursing holds district conferences for the study of maternal and child health services and for instruction in the use of the incubator and care of premature infants. This program was made possible by a special grant from the U. S. Children's Bureau.

Alabama's maternal death rate was reduced from 7.4 deaths per 1,000 live births in 1936 to 5.3 deaths in 1941 and has been still further reduced to 2.6 in 1947.

The infant death rate has been lowered from 58.7 deaths per 1,000 live births in 1941 to 36.7 in 1947. During the same period of seven years the neonatal death rate has decreased from 34.6 to 25.2 per 1,000 live births, while the stillbirth rate dropped from 37.4 per 1,000 live births in 1941 to 27.9 in 1947. Corrected statistics for 1948 are not yet available, although incomplete reports from county health officers indicate a number of counties with still lower maternal mortality and stillbirth rates.

It has not been possible to obtain the services of obstetrical or pediatric consultants on the staff. In September Dr. Leo L. House became director of the Division of Dental Health. As a result of his interest and enthusiasm, there has been an expansion of the dental program. The effect will be seen in 1949, as several counties plan to begin clinics. The U. S. Public Health Service has placed in Alabama a dental crew to demonstrate in schools the topical application of sodium fluoride. Experience indicates that this will reduce by forty percent the incidence of dental caries. The personnel of the team consists of one dentist, two oral hygienists and one clerk. All equipment, salaries and expenses are provided from federal funds. The first team worked in Jefferson County, where the training center was established. The first school to receive the benefit of this state program was situated in Montgomery.

The Department is greatly indebted to the State Medical Association's Committee on Maternal and Child Health for help and encouragement. This

committee, comprised of Drs. T. M. Boulware, A. E. Thomas and Hughes Kennedy, Jr., has studied the maternal mortality rates and made efforts to promote more prenatal clinics, especially in the counties with high death rates. With the committee members' help and approval, the Bureau of Maternal and Child Health has revised the standards and guides for conducting maternity and child-health clinics and the schedule cards for infants and children. Several counties will increase prenatal facilities early in 1949.

County health departments report that 10,601 new antepartum patients enrolled in the prenatal clinics, an increase of 169 over 1947. Of these, 62.3 percent enrolled for service before the sixth month of pregnancy. They made 41,886 visits, an increase of 1,657 over 1947. Every effort was made to send prenatales with syphilis to the treatment center in Birmingham. These clinics were conducted by 119 physicians.

Twenty counties, exclusive of Jefferson, reported that 12,267 children attended the 770 child-health conferences. Jefferson County alone held 1,481 clinic sessions and gave service to 28,521 children. Sixty physicians served as clinicians.

Twenty-four counties reported that 6,218 children attended the dental clinics, made 12,132 visits and received 27,786 treatments. Treatments include examinations, prophylaxis, fillings, and extractions. Attendance exceeded the 1947 attendance by 1,388. Forty-five dentists conducted the clinics.

Direct nutrition services were rendered through Health Department personnel in thirty-five counties. By means of eighteen home visits with county nurses, three chest clinics and eleven maternity clinics, special help was given to prenatal cases, preschool children and others who presented diet problems. Consultation services and teaching material were provided for many. The nutritionist conducted two workshops in two counties and participated in one at the University of Alabama. Two hundred and sixty-nine workers attended these. There were many visits to school lunch rooms; talks were made to interested groups; and much educational material was distributed. Orientation and in-service education courses in nutrition were provided for county nurses and the personnel of the Crippled Children's Service.

County health officers reported that during 1948 the nurses made 38,961 visits to 14,728 ante- and postpartum cases and 49,817 nursing visits to 14,194 infants. Nursing visits to 6,437 preschool children totalled 25,368. There were 6,208 visits to crippled children and 2,320 to midwives for instruction and supervision. Visits to maternity cases were slightly fewer than in 1947, as were those to preschool children. Visits in the interest of infant health were approximately 4,000 more than in the previous year.

MACON COUNTY MEDICAL CARE PROGRAM

This program provides care for colored maternity cases and sick infants in Macon County

and the six near-by counties. There were 610 deliveries, with 571 live and 39 stillbirths. More than 400 were operative deliveries, including 18 cesarean sections, representing 3.15 percent of all deliveries. The maternal death rate was 8.5 per 1,000 live births, while the stillbirth rate was 68.1 and the neonatal death rate 24.5. There were 53 premature babies (5½ lbs. or less). They represented 9.28 percent of the total live births. Only four, or 1.4 percent, had puerperal infection. Funds for this program were provided by a special grant from the U. S. Children's Bureau.

SLOSSFIELD MATERNITY HOSPITAL SERVICE

This program, after providing hospital maternity care to the Negro population in Birmingham for a period of seven years, was discontinued in August 1948. The project proved its value, but it was not possible to operate without trained personnel, and the funds granted by the U. S. Children's Bureau were not sufficient, without additional local aid, to finance the program further. During the period January 1 to August 26, 1948, there were 256 live births and six stillbirths and one neonatal death, the rates being 23.6 and 3.5 per 1,000 live births, respectively. There was no maternal death. The success of this demonstration was due to the expert services of the director and the specialist-consultants and the fine quality of nursing supervision given by the county health department. It is regretted that such a service could not have been continued.

EMERGENCY MATERNITY AND INFANT CARE PROGRAM

The maternity part of the EMIC has been discontinued as no wife was eligible unless conception was prior to June 30, 1947. A few infants not yet one year old were still being carried at the year's end, but the program had been practically liquidated at that time.

PUBLIC HEALTH LABORATORIES

The number of laboratory specimens examined during 1948 showed an increase of 47,216 over the previous year. The larger part of this increase was due to serologic examinations resulting from the premarital blood test law that became effective January 2, 1948. However, an increased number of specimens was also noted in feces for intestinal parasites, smears for tuberculosis, cultures for diphtheria, agglutination tests, milk and water. The number of animal heads submitted for rabies examination showed a slight decrease under the previous year.

There was substantial increase in the amount of diphtheria toxoid distributed during the year. A total of 170,650 cc. of the product was distributed in 1948 compared to 94,000 cc. distributed in 1947. No marked change in the amounts of other biologicals distributed was shown.

The distribution of surplus blood plasma and immune globulin furnished by the American Red Cross was continued during the year. An increase in demand for the immune globulin was noted.

The premarital blood test law that became effective January 2 imposed additional burdens upon the laboratories. The law provides for these tests to be done in private and hospital laboratories that are approved by the State Health Department as well as by public health laboratories. This necessitated the adoption of regulations to be used as a basis for approval. It was decided that laboratories wishing approval for the performance of these tests would be required to have competent serologists who would actually perform the test and would also be required to have a minimum of standard equipment. It was stipulated that the serologist must either be a qualified pathologist or a medical technician registered under the Alabama law. This decision proved to be wise, as it quickly eliminated many incompetent technicians. In addition to the qualifications of personnel, serologists were required to obtain satisfactory results on 50 specimens of sera sent out from the Central Laboratory. It has also been decided that in order for a laboratory to continue on the approved list it must make a new application each year and must perform satisfactory tests on 50 specimens of sera sent out from the Central Laboratory.

The records show that about ten per cent of the total premarital tests were made in these authorized private laboratories and the remaining ninety-plus in the Health Department laboratories.

It is felt that, with the present regulations governing the performance of premarital serologic tests, we now have this work on a level comparable with that of the best in the country.

The laboratories continued to be handicapped by a shortage of trained personnel, laboratory facilities and insufficient salaries.

PREVENTABLE DISEASES

EPIDEMIOLOGY

Many of the communicable diseases continued to show a decreasing incidence as compared with the previous year. However, diphtheria and poliomyelitis threatened to reach epidemic proportions. Increasing steadily, the number of reported diphtheria cases reached 614 for the year. This total compared unfavorably with the 358 for the previous year. Constant concern over the steady rise grew to anxiety when, in the early autumn, a peak of fifty cases was reached during the week of October 23rd. Immediately the forces of publicity and immunization were employed against this disease. And before the year ended the effect of these procedures began to be seen. The records show that 71,431 children were immunized against diphtheria.

About mid-summer poliomyelitis incidence became serious. Fortunately for the children of the state, however, the late start prevented a major epidemic. Nevertheless, a minor epidemic occurred, with 206 cases reported. This was about four times the normal expectancy.

Although the total number of measles cases was less than in the previous year, a sharp rise began with the opening of school. A major epidemic could be seen as a probability in 1949.

Late in the autumn psittacosis, a disease spread to humans by love birds, parakeets, pigeons and other psittacine birds, began to appear in Birmingham. Four human cases occurred, with two deaths. The infected individuals had handled sick pigeons or chickens.

VENEREAL DISEASE CONTROL

The swift progress of mass blood testing was maintained until mid-summer, when the sixty-seventh county, Mobile, completed the survey.

Beginning in February, retesting was started so that for a few months both original testing and retesting were going on. During the latter part of the year, however, only one county was being tested at any one time and this change of pace was reflected in the number of counties served. Only eighteen could be reached, in comparison with the twenty-eight covered the previous year. Nine of these were covered for the first time and nine for the second. Of the 335,660 persons who presented themselves at the blood test stations, 23,507 were found provisionally to show a positive test.

Since infection must be verified by additional tests, along with history and physical examination, follow-up in those counties having the survey in the latter part of any year extended over into the next year. As a result, follow-up work was carried on in twenty-eight counties, with 63,148 persons receiving these tests. Of this number, only 13,141 were finally shown to be infected.

So far, the repeat mass blood testing has demonstrated a marked reduction in the incidence of syphilis.

In a year in which original surveying and re-surveying were going on, it is not particularly significant that 18,640 patients were admitted to the Rapid Treatment Center. But it is significant that only 2,080 were white and 16,560 were colored.

Monthly admissions reflect the declining syphilis incidence. During the first nine months—in which patients were received from the last nine counties that were surveyed for the first time—monthly admissions averaged 1,770. By contrast, during the last three months of the year admissions averaged 901 a month.

The average cost per patient per day at this center was \$3.78. The average stay was eight and a half days.

Penicillin was the only drug used. It was administered every two hours over a seven-day period. An average of one and a half days per patient was required for transportation.

Although the Rapid Treatment Center received patients from all sixty-seven counties, three local venereal disease clinics were still in operation. Two of these were using old methods of treatment, and the other one was evaluating the effectiveness of penicillin on an out-patient basis.

The pre-penicillin antisyphilitic drugs, arsenicals and bismuth, were distributed in small amounts. Penicillin (90,544 cc.) and sulfathiazole (156,500 half gram tablets) were supplied to county health departments to treat gonorrhea.

From clinics, practicing physicians and the mass blood-testing program, 17,149 cases of syphilis and 5,882 cases of gonorrhea were reported.

CANCER CONTROL

The records show that 1,478 cases of cancer were treated during the year in the five cancer clinics. This represented an increase of twelve per cent over the previous year. However, the reporting of cancer was still poor, since most of the reported cases came from the clinics and from death certificates. Few physicians sent reports on their private cancer patients. Until the cases reported greatly exceed cancer deaths progress will be slow.

Considerable work was done on the educational front. The Alabama Cancer Bulletin, reprinted from the Illinois Cancer Bulletin, was mailed to every physician in the state. Lantern slides on the nursing care of cancer were shown to nurses.

Finances were insufficient to provide for all cancer applicants; so only early cases were accepted in the clinics. This necessity placed a heavy burden on some families and it is hoped additional funds will alleviate such restrictions.

INDUSTRIAL HYGIENE

Slow progress in industrial hygiene continued. This was due in part to industry's lethargy in taking up this program and partly to the confusion that resulted from moving to new quarters. Laboratory facilities were disrupted for some time but excellent quarters are now available in the Jefferson Health Center.

In spite of these difficulties, 65 plants were visited and 24 laboratory determinations were made. Several nuisance complaints were investigated, with successful results. The complaints varied from tear gas to atmospheric pollution and paint discoloration of residences.

TUBERCULOSIS CONTROL

Tuberculosis control activities continued to expand. There still was a shortage of professional personnel, but there was no shortage of x-ray film or equipment such as was encountered in the previous few years.

More x-ray examinations of the chest were made in the diagnostic clinics throughout the state than in any previous year. A total of 37,450 chest films were made, an increase of 11,899 over those made in 1947.

A total of 2,773 new cases were reported during the year from all sources. Of those, 672 were minimal, 668 moderately advanced and 433 far advanced. In 545 cases no stage was specified, and all other forms totaled 455.

Private physicians continued to take advantage of the consultation service offered in film reading by State Health Department clinicians. Out of a total of 333 private films, 54 were found to be suspicious and in need of further studies and follow-up. Fifteen showed minimal disease, 28 moderately advanced disease and 17 far advanced disease.

Mass x-raying of selected population groups continued on a much larger scale than in 1947. A total of 157,794 persons were x-rayed. Out of

this number, 543 new cases of tuberculosis were found—341 minimal, 175 moderately advanced and 25 far advanced. Among the cases found by this method of case finding, a greater percentage are in the earlier stages than are found in other methods of detection.

During the last seven months of the year mass surveying was done under the Henderson Act. Marshall, Jackson, DeKalb and Limestone counties were surveyed, and a total of 73,855 individuals were x-rayed. They consisted of 69,203 white and 4,652 colored people. Out of this number, 233 tuberculosis cases were found by stages as follows: 141 minimal, 81 moderately advanced and 11 far advanced. Because of the shortage of sanatorium beds in this area, active treatable cases were given priority.

The Central Tuberculosis Case Registry functioned well all year, and a local case registry was established in all but seven counties.

One additional mobile x-ray bus with its own source of power was delivered in May. It increased the State Health Department's photo-fluorographic units to four.

Additional pneumothorax clinics were opened in four counties. As a result, county clinics and those maintained by sanatoria are now so numerous and so strategically situated that no tuberculosis patient need travel too far to receive refills.

MENTAL HYGIENE

A Division of Mental Hygiene in conjunction with the Medical College of Alabama was established September 7, 1948, with Dr. Jack R. Jarvis as director.

Office space was provided in the Public Health Building, Birmingham. Space for clinical work and laboratory facilities was provided by the Medical College of Alabama and the Jefferson-Hillman Clinic.

From September 13 to September 24 (1948), the director discussed the mental hygiene project with staff members of the State Health Department, the health officers of Baldwin, Covington, Jefferson, Mobile and Tuscaloosa counties and the superintendents of Mount Vernon Hospital, the Bryce Hospital and the Partlow School. On October 21 the Division opened a mental hygiene clinic at the Jefferson-Hillman Clinic, in addition to the previously existing Friday afternoon clinic, and began to work with the Friday afternoon clinic. On December 2, it opened the clinic for Wednesday afternoons. By the end of the year the Division has assumed responsibility for the Mental Hygiene Clinic in conjunction with the Psychiatric Department of the Medical College for Wednesday afternoon, all day Thursdays and all day Fridays. On December 2, Dr. Jarvis began to teach in the Medical Clinic of the Jefferson-Hillman Clinic one day each week. Between October 21 and the end of the year, the Mental Hygiene Clinic examined sixty-two new patients. Twelve talks on mental hygiene were given before parent-teacher associations and business clubs. These talks were given in Jefferson County, Birmingham, Montgomery and Florence.

SANITATION

The increased interest of the people of Alabama in public health, caused possibly by the many years of education on the part of the public health workers, new methods of applying basic principles and the discovery of new chemicals, has placed a heavy responsibility on sanitary engineering services. All of the demands have not been met, not because they are not important, but mainly because of the inadequacy (in number) of personnel.

With some exceptions, programs operated in the past were continued during the year. It is realized that services to the county health departments relative to environmental sanitation programs were not as extensive as desired. Personnel of the Bureau of Sanitation necessarily has to be assigned to projects and programs which it is felt are most urgent. It is fully realized that the privy program, which once received major consideration, is lagging as a result of many factors, but mainly because of inadequacy of personnel to work with local health units. A majority of the local health units are staffed with sanitation officers who have no technical background other than that received in training schools conducted by this bureau. Practically all programs of an environmental sanitation nature could be accelerated in the counties if proper technical direction from the state level could be given. Notwithstanding the inability to give all of the desired services to the people of Alabama, a great deal was done toward preventing disease, misery and suffering.

Through the efforts of the two engineers assigned to water works and sewage, public water supplies continued to operate at a high level and delivered to over one-half the people of the state an adequate and safe domestic water. Inspections of water works properties, cooperation with the operators, operation of short course schools and confidence in the bureau's engineers, built up over the years, have all been contributing factors to the attainment of this high level. These two engineers also made many visits to sewage treatment plants, checked plans of proposed sewage works and gave direction to this activity.

The three engineers assigned to general sanitation covered the entire state. Working through the sixty seven county health units, they gave direction to school sanitation programs, swimming pool construction and operation, pit privy programs, research and investigations. They also conducted training schools for sanitation officers and gave them technical direction on many other problems.

In the interest of malaria control, supervision of major impoundages continued with respect to water level management, shore line maintenance, larviciding and mosquito station counts. Investigations were made and responsible officials aided in the use of new larvicides and herbicides. Residual DDT house spraying programs were carried out in 1948 as in the previous two years. Programs were in operation in thirty three coun-

ties and forty municipalities. The importance of proper construction, preparation and maintenance of minor impoundages should not be minimized. Interest in these programs continued, as indicated by the participation of counties and municipalities. The demand placed upon the two engineers assigned to malaria control was such that adequate technical field direction could not be given to all the counties on this important phase of the program.

Efforts were continued in the direction of typhus control, applying engineering methods in breaking the chain of transmission. Morbidity records indicate that the campaign has met with a marked degree of success. Programs consisting of dusting with DDT and poisoning of rats were operated in counties where endemic typhus has been a major problem, and rat poisoning campaigns were carried out in municipalities in all parts of the state. Although the typhus rat has been greatly reduced in Alabama, the reservoir still remains. Present plans are to continue these programs in order to further reduce the disease and to keep typhus from becoming a major problem.

The legislature in 1947 enacted legislation creating the Water Improvement Advisory Commission. It named the State Health Officer as chairman of the Commission, the State Chief Sanitary Engineer as the technical secretary, and the State Health Department as the administrative agency. The engineer who was at that time in charge of malaria control accepted the position of director of the Commission's activities. Field personnel was recruited, laboratories acquired and equipped and the study programs initiated as quickly as possible. Organization and speed were and are essential to comply with the intention of the act, which states, in effect, that the first phase of the program must be completed by September 30, 1949. The Bureau's facilities are available to contribute toward the success of the program. It is expected that the Commission will make recommendations to the 1949 Legislature for additional powers.

The increasing demand of the public for higher quality in milk and milk products, meat and meat products, cleaner foods and food establishments, shell fish, etc., is a reality. Although these activities, with a few exceptions, are a function of county health departments, technical direction is given by Bureau personnel. Every effort has been made to give these programs the attention they deserve. It is fully realized, however, that the needs have not been met in all cases. There are indications that many of the regulations governing these programs are in need of revision and that new ones should be adopted. It is expected that this matter will be given further consideration during the ensuing year.

The Drafting Section, consisting of two draftsmen, was pressed to meet the demands placed upon it. Its services are available to all divisions of the State Health Department and to all county health departments. They have greatly increased over the past years, and there is no reason to believe that the demand will in any way slacken.

MALARIA CONTROL

Malaria control operations on major impoundments were, with the exception of Bankhead, Gantt and Martin, successful in controlling malaria-transmitting mosquito production at a reasonably safe level. Recommendations were made during the mosquito-breeding seasons of 1946 and 1947 on both Gantt and Point A either that the operating water levels be maintained at 32 and 40 feet respectively or that proper clearing be done of all growth from the areas flooded above these elevations. As none of the recommendations were complied with, it was necessary for the State Health Officer to transmit the file on these lakes to the Attorney General requesting consideration for legal action against the owning agency. During July the operating water level of Gantt was maintained above 32 feet, resulting in the flooding of uncleared areas, which was responsible for an increase of *Anopheles quadrimaculatus* mosquito production. The Attorney General reminded the owning agency that a maximum of 32 foot operating elevation would be required until completion of all recommended clearing. Upon receipt of this warning, the elevation was lowered to 32 feet and maintained at this level or lower during the rest of the mosquito-breeding season. Frequent visits were made to this lake and Point A during the mosquito-breeding season and recommendations designed to increase the efficiency of mosquito control were submitted to the owning agency. The adult mosquito densities on Lake Bankhead were slightly higher than recorded for 1947; however an increase of mosquito breeding was also noticeable over the state. The owning agency employed a DDT larvicide instead of the kerosene-black oil mixture previously used. Annual encroachment of adequate vegetation has created conditions which make satisfactory mosquito control exceedingly difficult. Based on recommendations made to the owning agency, 2-4-D, weed-killing chemical, will be thoroughly explored in the eradication of certain aquatic plants present in the lake during 1949. Unsatisfactory mosquito control on Lake Martin was due principally to insufficient larviciding at the peak of the mosquito-breeding season.

The Tennessee Valley Authority, as in previous years, used DDT exclusively as a mosquito larvicide on its lakes located in Alabama. The larvicide was applied from airplanes, and approximately 1207.5 gallons of 20 per cent DDT concentrate were used. As in the previous year, DDT was also used as a larvicide on Gantt, Martin, and Point A Lakes. The DDT metering device, developed by the Tennessee Valley Authority, was used on Lake Bankhead, Gantt, and Point A. The number of these devices purchased and operated by the owning agency was: Bankhead, 4, Gantt, 1, and Point A 1. Three of the metering devices were purchased by the Health Department and loaned to the Alabama Power Company for use on Lake Martin for experimental purposes. These devices were not installed during 1948, but plans are being made to

install and operate them during 1949. On the lakes where the metering devices were used a one per cent DDT larvicide was used exclusively. The mechanism permits the discharge of small quantities of DDT larvicide, thereby reducing the amount of larvicide required and also permitting more than a day's supply of the mixture to be carried in the boat. The larvicide is applied at the rate of about $2/3$ of a gallon per acre, using about 0.05 pounds of DDT per acre. The DDT larvicide is considered more effective in controlling the breeding of mosquitoes and it is much more economical to apply than the kerosene-black oil larvicide previously used in the state.

The use of the weed-killing chemical 2-4-D increased during the year. Very promising results were obtained in the control of willow and certain other types of vegetation on some of the lakes. Extensive use will be made of this chemical on some of the large lakes in the state during 1949.

A pre-impoundage study was made and a report prepared for the proposed Jim Woodruff reservoir on the Chattahoochee River bordering Houston and Henry counties. This reservoir is under the jurisdiction of the U. S. Engineers. Construction activities in the dam at Chattahoochee, Florida, are now in progress.

The construction of small ponds for fish, live stock and recreation continued. There were 442 of these ponds registered for supervision during the year. At the end of the year, there were on record 2,303 ponds having a total area of 7,904 acres and affecting 290,412 people. County health department personnel made 690 impounded water inspections during the year.

The State Department of Health and the U. S. Public Health Service jointly operated two malaria control programs. Malaria control operations in military areas continued to decrease during the year. Entomological inspections were conducted at three U. S. air fields; however, larvicidal control work was not required. A special entomological survey was made of Brookley Field and vicinity.

During the year the DDT residual house spraying program was further expanded and operated in 33 counties. The sole purpose of the DDT program is to reduce malaria transmission by killing the *Anopheles quadrimaculatus* mosquitoes when they come in contact with DDT-treated surfaces inside occupied houses. The reduction of housefly and other household pests has made this program very popular. The malarious areas of all counties pre-approved by the U. S. Public Health Service were treated. The county governing bodies of each of these counties were given the opportunity to participate and make the program county-wide. The following counties did not participate and only the malarious areas in them were treated, at no expense to the counties: Baldwin, Bibb, Bullock, Butler, Choctaw, Clarke, Covington, Elmore, Escambia, Hale, Houston, Lawrence, Limestone, Macon, Madison, Monroe, Perry, Russell, Sumter and Tuscaloosa. The following counties employed county crews and sup-

plied material to supplement the spraying program to the extent that county-wide coverage was obtained: Autauga, Colbert, Crenshaw, Dallas, Geneva, Greene, Lamar, Lowndes, Marengo, Montgomery, Washington and Wilcox. Chilton County began a county-wide residual spray program conducted entirely at county expense. Although it was not carried to completion, 6,066 houses were reported as having been sprayed.

During the year 118,511 houses were treated. Of this number, 72,220 treatments were financed by federal funds and 46,291 with local funds. In some areas the houses were treated twice. The total number of treatments made was 142,330. In only five counties were two treatments applied.

During the year forty municipalities carried out programs financed entirely by local funds. In the towns 18,496 houses were treated. Thirteen hundred and fifty three houses were given a second treatment, making a total of 19,849 treatments in towns. Complaints that the DDT was not effective were received and it is understood that this was a world-wide situation. The complaints were almost entirely devoted to fly control. Despite the fact that entomological results show that fly breeding was very excessive and complaints were numerous, inspections indicate good control by DDT. Nine per cent of the unscreened houses inspected had no flies, and 48.6% had less than 10 flies. Only 0.7% of the unscreened and unsprayed houses had no flies and only 7.5% had less than ten flies. In Selma, which was the largest sprayed town, an average of 12 flies was found in the unscreened houses inspected. This figure is compared to 51.8 flies per house found in Tuscaloosa, which was unsprayed. Tuskegee sprayed and had an average of 10.5 flies per house, compared with Greenville which did not spray and had an average of 102.6 flies per house.

New developments in DDT are promised for 1949. They should help with reference to fly control.

It was agreed that the U. S. Public Health Service engineer assigned to the Colbert Spraying Area would give the needed engineering assistance in the Colbert County Drainage District. With his assistance, the dragline began operating. There have been 17,100 linear feet of ditches dug or regraded, 26,456 cubic yards of earth removed and 50,000 sq. ft. of ditch clearing completed since the start of the program. Experimental work has been started on the possibility of developing vertical, rather than surface drainage. It is too early to evaluate the results of this type of drainage in Colbert County. However, indications are that it will be very effective.

TYPHUS CONTROL

According to records obtained from the Bureau of Preventable Diseases the number of reported typhus fever cases in Alabama was 172. There were eight deaths from this disease.

Typhus control activities in 1948 included advisory and supervisory service in rat-proofing,

rat stoppage, rat extermination surveys, extermination campaigns, sanitation officer training schools, DDT dusting programs, educational campaigns, commercial exterminator activities and the collection of entomological data. These activities were conducted by federal, state, county and city personnel, with the necessary material furnished by the agency concerned.

The DDT dusting program was inaugurated in Alabama in 1945 for the specific purpose of controlling the rat flea, the known agent responsible for the transmission of endemic typhus fever (Brill's disease) from rat to man. After an appraisal by the U. S. Public Health Service of typhus incidence in the nine southeastern states for the period 1940 to 1944, inclusive, federal funds were allocated to provide supervision, transportation, DDT powder and equipment for its distribution. Local participation, including labor, poisoning material and hydrocyanic acid gas, was provided by the governing agency wherein each program was conducted. In addition to the eighteen counties approved for 1948, nine others were approved upon special request. Of this total of 27 counties—Houston, Mobile, Jefferson, Covington, Coffee, Geneva, Dale, Pike, Montgomery, Barbour, Henry, Dallas, Crenshaw, Calhoun, Escambia, Talladega, Hale, Autauga, Blount, Cleburne, Tallapoosa, Chilton, Lauderdale, Colbert, Clarke, Butler and Baldwin—only four—Jefferson, Escambia, Butler and Clarke—did not participate in the program.

Tabulated reports show the following: 126,374 premises inspected, 110,723 premises treated, 545,649 pounds of DDT applied, 46,014 pounds of rodenticide bait used, 28,942 pints of arsenic water released and 10,244 pounds of hydrocyanic acid gas used for gassing rat harborages. A total of 39,557 manhours of supervision and labor was furnished by the U. S. Public Health Service. In addition, a total of 72,908 manhours of supervision and labor was furnished by the state and by counties and cities participating.

Extermination programs, urban and rural, were conducted in 37 counties. These included 93 cities, with a total of 106 municipal campaigns. Many of these programs are conducted twice each year, and are becoming an accepted procedure as a rodent and typhus control measure.

Records showing pertinent information regarding rat extermination have been compiled from surveys and campaigns in all of the towns having a minimum population of 500, except those in Jefferson County.

Conferences were held with commercial exterminators, and attempts were made to assist in directing their efforts in the typhus control field.

Entomological studies were continued in a limited portion of the state in an effort to obtain definite, conclusive information that would be of value in formulating control measures. Observations and reports confirm the basic principles of rodent reservoir, rat flea transmission and general rodent control methods. It is evident that rat flea control may be obtained through the use of DDT powder and that a corresponding reduc-

tion of the disease in the rat may be expected. The use of prepared arsenic water furnished by the local health department to the individual is proving to be the most practical and economical approach to rat control in the rural areas.

PUBLIC WATER SUPPLIES

As of December 31, 1948, there were 314 public water supply systems in Alabama. This represents an increase of four over the corresponding date in 1947 and an increase of 90.3 per cent during the twenty-year period 1928-1948 inclusive. According to a survey completed during the latter part of the year, approximately 1,700,000 persons were then being served with water from public supplies.

The major activities of the Water Division of the Bureau of Sanitation are general supervision of public water supplies and waterworks construction.

Each public water supply in the state was visited at least once during the year. In all, a total of 321 such visits were made. These inspections covered the general condition of the waterworks system, operating procedures and the bacteriological as well as chemical quality of the water. Personnel engaged in the waterworks field were instructed in proper operating procedures and responsible officials given advice concerning waterworks problems. As a further control of water quality, the water suppliers submitted 15,905 samples of water to the State Health Department's Bureau of Laboratories for bacteriological analyses. The reports of these analyses were interpreted by the Water Division.

Construction of waterworks facilities leveled off somewhat during the year in monetary value, although 56 projects were completed at an estimated cost of \$1,470,100 and 20, involving a cost of \$1,394,000, were under construction at the end of the year.

Plans and specifications were reviewed and permits issued to 46 supplies for the construction of either new source of water or modification, alteration and additions to existing systems. The proposed work represents an estimated cost of \$1,340,400.

In addition to reviewing plans and specifications the Department's engineers consulted frequently with practicing engineers engaged in the design of waterworks facilities.

Engineers assigned to the supervision of public water supplies cooperated closely with the U. S. Public Health Service in certifying supplies for use by interstate carriers. They also participated in training schools for new sanitation officers and assisted in organizing the annual meeting of the Alabama Water and Sewage Association, an organization of water and sewage men in the state.

SEWERAGE WORKS

Sewerage works consist of sewer systems and sewage treatment facilities. Adequate sewer systems are desirable and should be made available where it is economical and practical for that to be done.

Most communities with collecting sewer systems in the state made some additions or extensions during the year. Five cities, namely, Anniston, Brewton, Monroeville, Prichard, and Russellville, at a total estimated cost of \$852,000, completed major sanitary sewer extensions during the year. The city of Oneonta not only constructed extensive sewer additions but completed a primary sewage treatment plant at an estimated cost of \$114,000. The town of Arab completed one section of its proposed sewer system with primary treatment for the sewage collected in this system. Oakwood College, near Huntsville, completed a sewerage system consisting of a collecting system, primary and secondary treatment facilities, at an estimated cost of \$189,000. Thus a total estimated cost of all sewerage works projects, was \$1,263,000. This sum does not, however, include small extensions that were constructed in municipalities for which no permits were issued by this Department.

Plans and specifications for ten proposed sewage works projects were prepared by consulting engineers and the material submitted was approved and permits issued by this Department. The estimated cost of these projects is \$2,168,000.

At the end of the year, five major projects with sewer extensions and treatment facilities were under construction. They are: two in Mobile, two in Opelika, and one in Dothan. Four other projects, namely, Eutaw, Geneva, Greensboro, and California Cotton Mills at Uniontown, had work underway. The total estimated cost of these nine projects is \$2,477,000.

The construction of sewerage works facilities alone will not solve the sewage problems. Proper operation and maintenance of the facilities are also essential. Frequent inspections of all of the units of the sewage treatment plant should be made by trained operators and conditions of improper operation corrected immediately. The engineers with this Department made 43 visits to the various plants, and gave assistance to the operators and consulted with the municipal authorities.

GENERAL SANITATION

Through the efforts of county sanitation personnel, 11,930 new approved sanitation units, consisting of 2,847 pit privies, 4,036 septic tanks and 5,047 sewer connections, were installed during 1948, serving a population of 63,923. In addition, 921 units of sanitation were restored to their former usefulness in the protection of the public health for 7,960 persons. Therefore, it is seen that 71,883 persons were served through the installation of 12,851 privies, septic tanks and sewer connections.

The work continued to be handicapped by the price and shortage of materials and labor. However, the lack of field personnel to give technical direction and assistance to the work was still considered the greatest handicap encountered during the year. The very small increase in the number of installations over the previous year sub-

stantiates this assumption, as more county personnel was employed, and materials were more readily available.

The Bureau of Sanitation conducted two six-weeks training courses for sanitation officer personnel, with a total enrollment of 23 trainees. All of this number successfully completed the course and received assignments to duties in the various counties. At the end of 1948 only nine counties were without the services of county sanitation officers.

Research work was initiated during 1948 to determine whether or not aluminum could be used in connection with pit privy sanitation. Twelve risers were cast of aluminum and have been placed in Mobile, Covington, Montgomery and Lauderdale counties. When all are installed, periodic inspections will be made to determine how well they are standing up under field conditions. The vent pipes have been left off these risers in order to determine whether or not they are necessary.

Considerable trouble has been experienced in the past in locating the disposal fields for large school or institutional septic tanks so as to avoid excessive cuts. Deep cuts in disposal lines not only increase the cost of the construction but also impair the action of the field. To overcome this difficulty, the Bureau of Sanitation is giving consideration to the use of a subsurface filter. Plans have been made to install some of these filters in various parts of the state and observe their action and make laboratory tests to determine their performance as compared to the conventional type of disposal field.

A sanitation program in cooperation with the Education Department was initiated during the year. This dealt with the sanitation of homes for veterans who were on the farm training program. The outlook for this work was bright during the first part of the year. However, only 678 standard sanitary privies were constructed and approved during the year. Many nonstandard privies were built but could not be approved. The apparent cause for present failure of this program may be attributed to the lack of sufficient field personnel from the Bureau of Sanitation to sell the program to county authorities, both health and educational, and to follow through on assistance to county sanitation officers to keep the program continually active. It is felt that ten times as much could have been accomplished if adequate field personnel had been available.

Two bulletins on sanitation were compiled by the Bureau in cooperation with the Research Interpretation Council, Auburn, Alabama. They are: "Joe Smith Builds a Sanitary Pit Toilet" and "How To Build Your Septic Tank." These bulletins give more details of sanitation construction and have been well received. The family-sized septic tank bulletin was also revised during the year, in order to bring the reading matter up to present practices of construction.

Preparation of regulations governing the design, construction, operation and maintenance of

swimming pools in the state was started. A tentative draft was prepared, and it is now being discussed and considered for possible changes, pending a final draft. Architects and engineers are in most cases submitting plans and specifications on swimming pools for review and approval by this office, although not required to do so. An excellent program on this activity is anticipated, after the adoption of regulations.

Rules and regulations on sanitation were amended and adopted during 1948. One amendment permitted the county health department to have control over the construction of septic tanks and disposal fields anywhere in the county. Heretofore regulation of septic tanks was left to local ordinances and rules. The other change requires that privies constructed be in strict accord with the plans and specifications. Previously certain variations were permitted.

DRAFTING

The work done by the Drafting Section followed in 1948 the general line of activity carried on in the previous year. Continuing the objective of a complete set of beat maps for the approximately 1400 beats in the state, tracings from aerial photographs were made of additional beats in those new areas of expansion for malaria control and typhus control. This mapping covered five counties.

Scarcities of all construction materials having ended, the needs in general sanitation for sanitary surveys and school sewage disposal systems increased, and all plans were promptly worked up in the Drafting Section.

With the establishment of the Water Improvement Advisory Commission as a functional unit of the Bureau of Sanitation, new duties were delegated to the drafting room in connection with this unit's stream pollution study. Initial work was done in the preparation of drawings of the 17 drainage basins in the state which are involved in the study.

Routine work for all bureaus and divisions of the State Health Department was done as requested, though the Drafting Section lost one draftsman by transfer at mid-year.

Approximately 4,500 prints of maps and charts were distributed during the year.

INSPECTION

At the end of the year 16 counties had one or more men assigned full time to inspection work, 34 had full time sanitation officers or veterinarians devoting part-time to food inspection, 8 had full time sanitation officers serving two counties each, and 9 had no inspection programs.

Food sanitation ratings were made in 47 counties, as compared to 27 in 1947. The numerical average of these is 88.9, which is 0.9 of a point lower than for 1947. Even though the numerical average was slightly lower, a number of creditable improvements with respect to physical structure, equipment and methods of operation are being progressively made.

One food-borne epidemic involving 10 to 20 persons was reported during the year. How-

ever, it is felt others occurred for which no epidemiological data were submitted.

Advisory assistance on milk and milk products sanitation was rendered in 59 counties. Eighteen milk sanitation ratings were made. These covered twenty cities and 2 counties. The weighted average of the retail raw milk was 80.1, as compared with 73.2 in 1947, while that for pasteurized milk was 81.6, as compared with 82.3 for 1947. In making a comparison of the weighted averages for pasteurized milk and milk products, it was indicated that little or no improvement was made. However, of the eighteen ratings made, four had an average of 68.3, as compared to 85.6 for the other fourteen. This indicates a reasonable degree of improvement within the industry in the processing and protection of its products in the interest of public health.

There were about 1,400 dairy farms and 104 pasteurization plants under supervision of the various county health departments. These sold about 95,000 gallons of milk per day, thereby showing a slight increase over 1947 and more than 225 per cent increase over 1941. Ninety per cent or more of this milk is pasteurized. Ten pasteurization plants discontinued operations during the year. Three of these were consolidated with others.

Because of the lack of adequate personnel and other conditions beyond the control of the Division of Inspection, no work was done during the year toward the preparation and revision of a number of regulations in need of revision.

The routine supervision of oyster shucking and crab-meat picking plants was continued.

Because of inability to obtain veterinarians, participation in a slaughterhouse, quick freeze locker plant and meat processing plant sanitation program, started in 1945, has been practically discontinued.

In spite of the handicap of an extreme shortage of personnel, 11,343 inspections were made during the year.

WATER IMPROVEMENT

The act creating the Water Improvement Advisory Commission was approved by the Governor on September 30, 1947. The need for legislation regarding the pollution of our streams was realized in 1927, when the State Health Department prepared a bill for introduction into the Legislature. However, the passage of the above mentioned act was the first major action toward regulating stream pollution in Alabama.

The 1947 act created the Commission, designated its members, set forth its powers and duties and appropriated funds for the Commission's operation during the fiscal years 1947-1948 and 1948-1949.

The Commission is composed of 15 members. Four are ex-officio members, two are representatives from the Alabama Polytechnic Institute and the University of Alabama and nine are appointed by the Governor. The appointed members are representatives of municipal government, county government, wildlife conservation, mining, tex-

tiles, chemicals, lumbering, paper and metals. The State Health Officer is chairman. The Director of the State Department of Conservation is vice-chairman, and the chief engineer and director of the Bureau of Sanitation serves as technical secretary. The State Department of Health is designated as the administrative agency for the Commission.

Much valuable time was lost in inaugurating Commission activities, as the appointment of the various members was not completed until late January, 1948. Its first meeting was held in Montgomery on February 6th. At that initial meeting its powers and duties were summarized by the chairman as follows: the Commission is empowered to do research, to study and investigate all problems concerned with the improvement of waters of the state and to prepare reports and recommendations for consideration of the Governor and the Legislature. However, it must confine its activities to those stated in the legislative act. This act stipulates that the reports and recommendations be submitted to the Governor and the 1949 Legislature. It is unfortunate that such a limited amount of time was made available for the state-wide study. However, plans were formulated to complete the work and prepare the reports by September 30th, 1949.

The director of the Commission's activities was appointed on February 16th, 1948. The experience of other agencies in conducting similar surveys was sought. In developing plans for the study, it was decided to place two survey crews in the field as soon as the needed personnel, material and equipment were procured. Each crew would consist of an engineer, a chemist and two engineering aides. The engineers would be in responsible charge of the crew, make industrial and municipal wastes surveys and establish stream sampling points. The chemist would be responsible for making all chemical and bacteriological determinations. The engineering aides would serve as sample collectors and assist the chemist in the operation of the laboratory. It was decided that a trailer laboratory and a field laboratory would be used. Insofar as possible, both laboratories would work in the same major drainage basin.

The general plan of operation and the budget were approved by the Commission's executive committee on March 24th, 1948, and purchase orders for the various items of material and equipment were issued during April.

An engineer and a chemist were employed on April 1st, and arrangements were made to lease a trailer laboratory until delivery could be had on the Commission's trailer. The trailer laboratory was located at Decatur, and field work was begun in the Tennessee basin on May 14th, 1948.

The second engineer and second chemist were employed on June 16th and assigned to the trailer laboratory. Engineering aides were added in July and August. The field laboratory was initially set up at Anniston during the first part of July.

During the year the trailer laboratory was in operation at Decatur, Gadsden, Jasper, Tuscaloosa and Reform. The field laboratory was at Anniston and Birmingham.

At the end of the year, work had been completed in the northern half of the state. It is realized that it is a tremendous assignment to complete the field study in approximately 12 to 14 months, in spite of adverse weather conditions during the winter and spring months. The major limiting factor in the study is that all streams cannot be studied during their critical periods, which, in general, correspond to periods of low stream flow.

Alabama is unique in its approach to stream pollution regulations. Some states have adopted "stereotyped" regulations, without regard to conditions prevailing in the states in question. In many instances, the regulations are unworkable. From this study, the Commission will have factual information as to the extent of pollution in Alabama. As its members represent a majority of the interests in the state that are concerned with stream sanitation, its recommendations to the Legislature regarding stream sanitation should result in legislation that will be not only constructive but workable as well.

Part III of the Board's report was approved, as was the report as a whole.

REVISION OF THE ROLLS

The next order of business being the revision of the Rolls of the Association, the Secretary was directed by President Jones to proceed without interruption in the absence of objection. As a preface to the revision of the Roll of County Societies, the Secretary said:

"County Medical Societies, to comply with the Constitution, must meet certain obligations. First, an annual report, on forms furnished by the Association, must be filed with the Secretary; second, each society is expected to be represented at the annual meeting by at least one delegate; and, third, dues are to be remitted for each member not exempt from payment of dues."

With this foreword, the revision proceeded.

1. Revision of the Roll of County Societies:

(a) County societies which have fulfilled all their constitutional obligations: Autauga, Baldwin, Barbour, Bibb, Blount, Bullock, Calhoun, Chambers, Cherokee, Chilton, Choctaw, Clarke, Clay, Cleburne, Conecuh, Covington, Crenshaw, Cullman, Dale, Dallas, DeKalb, Elmore, Escambia, Etowah, Fayette, Franklin, Geneva, Henry, Houston, Jackson, Jefferson, Lauderdale, Lawrence, Lee, Limestone, Lowndes, Macon, Madison, Marengo, Marion, Marshall, Mobile, Monroe, Montgomery, Morgan, Perry, Pickens, Pike, St. Clair, Sumter, Talladega, Tallapoosa, Tuscaloosa, Walker, Wilcox, Winston—Total 56.

(b) County societies partially delinquent: In that they are not represented by delegates at this meeting of the Association: Butler, Colbert, Coosa, Greene, Hale, Lamar, Randolph, Russell, Shelby, Washington. In that an annual report has not been submitted: Coffee.—Total 11.

(c) County societies totally delinquent: None.

No objection being made as to the correctness of this report, the President directed the Secretary to write the Society delinquent in report and dues and, failing to remove the delinquencies, to call the Society to the attention of the State Board of Censors.

Whereupon the roll of County Medical Societies was declared closed until the next annual session of the Association.

The Secretary then said:

"In revising the Roll of Counsellors, five lists are prepared, designated respectively: (1) the schedule of counsellors clear on the books; (2) the schedule of delinquent counsellors—counsellors delinquent in attendance or dues, or against whom charges may be pending; (3) the schedule of miscellaneous counsellors—counsellors who have died since the last annual meeting, or have offered their resignation, or have moved out of the state, or out of their respective congressional districts; (4) the schedule of active counsellors of twenty years' standing; and (5) the schedule of counsellors-elect who have qualified as provided in the Constitution."

With such preface, the revision of the rolls was continued.

2. Revision of the Roll of Counsellors:

(a) Counsellors clear on the books: Abbott, Acker, Alison, Allgood, Anderson, Barber, Bell, Belue, Boyd, Bragg, Branch, Brown, Brunson, Carraway, Carter, Chenault, Cloud, Clyde, Cocke, Collier, Conwell, Craddock, Darby, Daves, Davis, Denison, Dodson, Donald, D. C., and J. M., Eskew, Finney, Ford, Foshee, Garber, Gibson, Gill, Gipson, Givhan, Godard, Golden, Gresham, Grote, Hill, R. C. Hill, R. Lee; Hodges, Howell, Isbell, Jackson, Jones, C. T. Jones, J. Jaul, Kennedy, Killingsworth, Leatherwood, Lisenby, Martin, McCown, McNease, Meadows, Moore, C. W. C., Morgan, J. O., Morgan, J. Ralph, Noland, Oswald, Owings, Parker, Partlow, Perdue, Riggs, Riser, Roan, Salter, Samford, Scarbrough, Segrest, Sewell, Sherrill, Simpson, H. M., Simpson, John W.; Skinner, Smith, Stabler, Stallworth, Thacker, Tillman, Waters, Watson, Weldon, White, White-side, Wilson, Woodruff.

In the absence of objection, the President ordered passed the names of these counsellors reported as clear on the books.

(b) Delinquent Counsellors: None.

(c) Miscellaneous Counsellors:

(1) Life Counsellors who have died: Drs. S. A. Gordon, F. A. Lupton, K. A.

Mayer, R. H. Redden and R. W. Wal-drop.

(2) Active Counsellors who have died: Drs. C. K. Weil and D. H. Wright.

(3) Active Counsellors who have moved: None.

(4) Active Counsellors who have resigned: None.

(d) Active Counsellors of twenty years' standing: Drs. Lloyd Noland and G. G. Oswald.

(e) Counsellors-Elect who have properly qualified: Drs. W. F. Harper, W. S. Littlejohn, Arthur Mazyck, R. D. Neal, Robert Parker, E. Bryce Robinson and P. P. Salter.

The President directed that the names of the deceased counsellors be transferred to the Book of the Dead; that those who have served for 20 years be added to the Roll of Life Counsellors; and that to the Roll of Active Counsellors there be added Drs. W. F. Harper, W. S. Littlejohn, Arthur Mazyck, R. D. Neal, Robert Parker, E. Bryce Robinson and P. P. Salter.

Whereupon the President declared the Roll of the College of Counsellors closed until the next annual session of the Association.

3. Revision of the Roll of Correspondents:

Dr. Max Thorek, the 1949 Jerome Cochran Lecturer, was added to the Roll of Correspondents.

4. Revision of the Roll of Officers:

Dr. Frank C. Wilson, Birmingham, was elected President; Dr. W. R. Carter, Repton, Vice-President of the Southwestern Division; Dr. B. W. McNease, Fayette, a Censor for two years to complete the unexpired term of Dr. K. A. Mayer, deceased; and Drs. E. G. Givhan, Birmingham, and J. D. Perdue, Mobile, to succeed themselves as Censors.

Committees constitutionally provided to nominate Counsellors brought in the following nominations, and the nominees were elected by the Association: 1st District—J. H. Baumhauer, J. M. Weldon, W. J. Barber and G. O. Segrest; 2nd—C. G. Godard and J. Mac Barnes; 3rd—V. J. Thacker and J. S. Tillman; 5th—W. H. Riser and B. C. Scarbrough; 7th—J. C. Gladney; 8th—Rayford Hodges and Erskine Chenault; 9th—C. N. Carraway, Earle Conwell, J. W. Simpson, F. C. Wilson and S. S. Underwood.

Miscellaneous Business

PROPOSED CONSTITUTIONAL AMENDMENT

Introduced by Dr. Walter F. Scott

Resolved, That any member of The Medical Association of the State of Alabama in good standing for five (5) years is eligible to be elected to any office in the Association.

President Jones directed that the amendment lie over for one year as required by the Constitution.

EXPRESSION OF THANKS

This Association, in annual session assembled, expresses gratitude to all persons and institutions that have contributed so generously to the success of the meeting. All cannot be named individually but included are the Montgomery County Medical Society, the Whitley and other hotels, the newspapers, radio stations, and the Montgomery Rotary Club that moved its weekly luncheon from the Blue and Gray Room to another hotel in order that the sessions of the Association might proceed without interruption.

MEETING OF 1950

Invitation was accepted to meet in Birmingham, April 20-22.

LETTER TO DR. R. S. HILL

On motion made by Dr. W. M. Salter, the Secretary was requested to express to Dr. R. S. Hill the Association's regrets that he was not able to attend the meeting of 1949; and to wish for him a rapid convalescence from his illness.

INSTALLATION OF OFFICERS

The newly-elected officers were escorted to the platform, and Dr. Wilson, having received the gavel from Dr. Jones, expressed appreciation of the honor conferred upon him in electing him President; whereupon, he declared the Association adjourned.

THE ROLL OF COUNSELLORS

REVISION OF 1949

LIFE COUNSELLORS

Name and Address	Date of Election
Acker, Paul Jerome Morris, Mobile (1)	1923
Alison, Samuel Blakemore, Minter (4)	1919
Ashcraft, Virgil Lee, Reform (7)	1919
Bedsole, James G., Jackson (1)	1922
Bondurant, Eugene DuBose, Mobile (1)	1894
Burdshaw, Shelby L., Headland (3)	1921
Caldwell, Edwin Valdivia, Huntsville (8)	1918
Cannon, Douglas L., Montgomery (2)	1928
Chenault, Frank L., Decatur (8)	1917
Dabney, Marye Y., Birmingham (9)	1923
Faulk, William M., Tuscaloosa (6)	1913
Granger, Frank G., Ashford (3)	1928
Gresham, George L., Speigner (4)	1913
Guice, Charles Lee, Gadsden (5)	1899
Harris, Seale, Birmingham (9)	1903
Harrison, William Groce, Birmingham (9)	1896
Hayes, Charles Philips, Elba (3)	1920
Hayes, Julius Pope, Clanton (6)	1920
Heacock, Jos. D., Birmingham (9)	1912
Heflin, Wyatt, Birmingham (9)	1893
Hill, Robert L., Winfield (7)	1924
Hill, Robert Somerville, Montgomery (2)	1898
Howell, William Edward, Haleyville (7)	1918

Howle, James Augustus, Hartselle (8)	1895
Hubbard, T. Brannon, Montgomery (2)	1924
Jackson, Alva A., Florence (8)	1918
Leach, Sydney, Tuscaloosa (6)	1920
Lester, Belford S., Birmingham (9)	1923
Lightfoot, Phillip Malcolm, Shorter (3)	1918
Lull, Cabot, Birmingham (9)	1919
Martin, James Cordie, Cullman (7)	1917
Mason, James Monroe, Birmingham (9)	1918
McAdory, Edward Dudley, Cullman (7)	1920
McCain, William Jasper, Livingston (6)	1898
McCall, Daniel T., Mobile (1)	1923
McLeod, John Calvin, Bay Minette (2)	1911
McLester, James Somerville, Birmingham (9)	1913
Mohr, Chas. A., Mobile (1)	1909
Noland, Lloyd, Fairfield (9)	1929
Oswalt, G. G., Mobile (1)	1929
Partlow, William Dempsey, Tuscaloosa (6)	1909
Ralls, Arthur W., Gadsden (5)	1919
Rucker, Edmon W., Birmingham (9)	1922
Sankey, Howard J., Nauvoo (7)	1914
Scott, Walter F., Birmingham (9)	1922
Searcy, Harvey Brown, Tuscaloosa (6)	1923
Shropshire, Courtney W., Birmingham (9)	1923
Sledge, Edward S., Mobile (1)	1922
Speir, Phillip V., Greenville (2)	1917
Taylor, Woodie R., Town Creek (8)	1926
Thigpen, Charles Alston, Montgomery (2)	1900
Thomas, Eugene Marvin, Prattville (4)	1920
Walker, Alfred A., Birmingham (9)	1923
Walls, J. J., Alexander City (5)	1924
Ward, Henry Silas, Birmingham (9)	1915
Wilkinson, David Leonidas, Birmingham (9)	1902
Total 56	

ACTIVE COUNSELLORS

Those marked with a † are serving last terms of six years.

Those marked with an asterisk (*) are serving second terms of seven years.

Those without a symbol are serving first terms of seven years.

The numeral is the number of the congressional district.

	Date of Elec- Expi- tion ration
Abbott, Chas. E., Tuscaloosa (6)	*1945 to 1952
Acker, Charles T., Montevallo (6)	*1944 to 1951
Alison, James F., Selma (4)	†1948 to 1954
Allgood, Homer W., Fairfield (9)	1944 to 1951
Anderson, Thos. J., Greensboro (6)	†1947 to 1953
Barber, William J., Butler (1)	*1949 to 1956
Bell, J. Mac, Mobile (1)	1943 to 1950
Belue, Julius O., Athens (8)	*1944 to 1951
Boyd, Frank H., Opelika (3)	*1946 to 1953
Bragg, John C., Decatur (8)	*1948 to 1955
Branch, John L., Montgomery (2)	1944 to 1951
Brown, Elridge T., Cleveland (7)	*1944 to 1951
Brunson, Emmett T., Samson (3)	*1943 to 1950
Carraway, Chas. Newton, Birmingham (9)	*1949 to 1956
Carter, William R., Repton (2)	†1948 to 1954
Chenault, Erskine M., Decatur (8)	†1949 to 1955
Cloud, Robert E., Ensley (9)	*1948 to 1955
Clyde, Wallace A., Birmingham (9)	1947 to 1954
Cocke, William T., Demopolis (1)	*1946 to 1953
Collier, James P., Tuscaloosa (6)	*1947 to 1954
Conwell, H. Earle, Birmingham (9)	*1949 to 1956
Craddock, French H., Sylacauga (4)	†1946 to 1952
Darby, Henry A., Athens (8)	1947 to 1954
Daves, James G., Cullman (7)	*1945 to 1952
Davis, Lewis C., Gordo (7)	*1946 to 1953
Denison, George A., Birmingham (9)	1943 to 1950
Dodson, Robert B., Cullman (7)	1944 to 1951

ACTIVE COUNSELLORS—Continued

	Elec- tion	Expi- ration
Donald, Dan C., Birmingham (9)	1944	to 1951
Donald, Joseph M., Birmingham (9)	1946	to 1953
Eskew, M. H., Uniontown (6)	†1948	to 1954
Finney, James O., Gadsden (5)	1947	to 1954
Ford, Charles E., Roanoke (5)	*1946	to 1953
Foshee, Reuben A., Alexander City, Rt. 5 (5)	1944	to 1951
Garber, James R., Birmingham (9)	†1946	to 1952
Gibson, Edward Lee, Enterprise (3)	*1947	to 1954
Gill, Daniel G., Montgomery (2)	1947	to 1954
Gipson, Amos C., Gadsden (5)	1944	to 1951
Givhan, Edgar G., Jr., Birmingham (9)	1946	to 1953
Godard, Claud G., Fairhope (2)	*1949	to 1956
Golden, William C., Clanton (6)	1944	to 1951
Gresham, Walter A., Russellville (7)	†1947	to 1953
Grote, Carl A., Huntsville (8)	*1944	to 1951
Harper, William F., Selma (4)	1944	to 1955
Hill, Robert C., York (6)	*1943	to 1950
Hill, R. Lee, Haleyville (7)	*1946	to 1953
Hodges, Rayford, Scottsboro (8)	†1949	to 1955
Howell, John V., Marion (6)	*1943	to 1950
Isbell, Arthur L., Albertville (5)	*1947	to 1954
Jackson, Albert C., Jasper (7)	*1947	to 1954
Jones, Carl T., Newville (3)	*1948	to 1955
Jones, J. Paul, Camden (1)	1943	to 1950
Kennedy, Hughes, Jr., Birmingham (9)	1943	to 1950
Killingsworth, Noah W., Brundidge (2)	*1946	to 1953
Leatherwood, Elbert F., Hayneville (2)	1944	to 1951
Lisenby, J. Otis, Atmore (2)	1943	to 1950
Littlejohn, Wilmot S., Birmingham (9)	1948	to 1955
Martin, John A., Montgomery (2)	†1947	to 1953
Mazyck, Arthur, Dothan (3)	1948	to 1955
McCown, William G., Huntsville (8)	1947	to 1954
McNease, Benjamin W., Fayette (7)	1947	to 1954
Meadows, James A., Birmingham (9)	1943	to 1950
Moore, C. W. C., Talladega (4)	*1944	to 1951
Morgan, J. Orville, Gadsden (5)	*1946	to 1953
Morgan, J. Ralph, Birmingham (9)	1943	to 1950
Neal, Ralph D., Grove Hill (1)	1948	to 1955
Owings, W. J. B., Brent (6)	*1948	to 1955
Parker, Lorenzo D., Andalusia (2)	†1947	to 1953
Parker, Robert, Montgomery (2)	1948	to 1955
Partlow, Rufus C., Tuscaloosa (6)	1943	to 1950
Perdue, James D., Mobile (1)	†1947	to 1953
Riggs, Frank W., Montgomery (2)	1943	to 1950
Riser, William H., Lafayette (5)	†1949	to 1955
Roan, Avery M., Decatur (8)	*1948	to 1955
Robinson, E. Bryce, Birmingham (9)	1948	to 1955
Salter, Paul P., Eufaula (3)	1948	to 1955
Salter, Wilbur M., Anniston (4)	†1948	to 1954
Samford, Millard W., Opelika (3)	1946	to 1953
Scarbrough, B. C., Albertville (5)	†1949	to 1955
Segrest, Grady O., Mobile (1)	*1949	to 1956
Sewell, John Ferris, Wetumpka (4)	*1947	to 1954
Sherrill, John D., Birmingham (9)	*1946	to 1953
Simpson, Harry M., Florence (8)	*1945	to 1952
Simpson, John W., Birmingham (9)	*1949	to 1956
Skinner, Marcus, Selma (4)	*1946	to 1953
Smith, Gordon R., Ozark (3)	†1948	to 1954
Stabler, Lorenzo V., Greenville (2)	*1944	to 1951
Stallworth, William A., Frisco City (1)	*1944	to 1951
Thacker, Vincent J., Dothan (3)	†1949	to 1955
Tillman, John S., Clio (3)	†1949	to 1955
Waters, Hinton W., Opp (2)	*1946	to 1953
Watson, Jerre, Anniston (4)	*1945	to 1952
Weldon, Joseph M., Mobile (1)	†1949	to 1955
White, Marvin S., Hamilton (7)	1946	to 1953
Whiteside, Maurice S., Cullman (7)	*1948	to 1955
Wilson, Frank C., Birmingham (9)	*1949	to 1956
Woodruff, Gerald G., Anniston (4)	*1947	to 1954

Total 96

COUNSELLORS-ELECT

Baumhauer, Jacques H., Mobile (1)	1949 to 1956
Barnes, J. Mac Ilwaine, Montgomery (2)	1949 to 1956
Gladney, James C., Jasper (7)	1949 to 1956
Underwood, S. Sellers, Birmingham (9)	1949 to 1956

THE ROLL OF THE COLLEGE OF COUNSELLORS BY CONGRESSIONAL DISTRICTS

On this roll the names of the Counsellors are given by Congressional Districts. It is intended to serve as a guide in the election of new Counsellors, with a view to the distribution of them in approximate proportion to the number of members in the several districts. It is not considered to be good policy, and it is not considered to be fair and right, to give a few large towns greatly more than their pro rata share of Counsellors. The calculations are based on the nearest whole number. On April 1, 1949, there were 1,749 members in the County Medical Societies. That would give one Counsellor to every 17 members. The membership set forth in the following is that of April 1.

FIRST DISTRICT

Names of Counsellors—W. T. Cocke, Marengo; W. J. Barber, Choctaw; R. D. Neal, Clarke; J. H. Baumhauer, G. O. Segrest, J. M. Weldon, J. D. Perdue and J. Mac Bell, Mobile; W. A. Stallworth, Monroe; J. Paul Jones, Wilcox.

County	Members	Counsellors
Choctaw	8	1
Clarke	13	1
Marengo	12	1
Mobile	162	5
Monroe	10	1
Washington	2	0
Wilcox	9	1
	216	10

SECOND DISTRICT

Names of Counsellors—C. G. Godard, Baldwin; L. V. Stabler, Butler; W. R. Carter, Conecuh; L. D. Parker and H. W. Waters, Covington; J. O. Lisenby, Escambia; E. F. Leatherwood, Lowndes; J. L. Branch, F. W. Riggs, J. A. Martin. J. M. Barnes, Robert Parker and D. G. Gill, Montgomery; and N. W. Killingsworth, Pike.

County	Members	Counsellors
Baldwin	21	1
Butler	11	1
Conecuh	10	1
Covington	21	2
Crenshaw	9	0
Escambia	15	1
Lowndes	5	1
Montgomery	125	6
Pike	16	1
	233	14

THIRD DISTRICT

Names of Counsellors—J. S. Tillman and P. P. Salter, Barbour; E. L. Gibson, Coffee; G. R. Smith,

Dale; E. T. Brunson, Geneva; C. T. Jones, Henry;
V. J. Thacker and Arthur Mazyck, Houston;
F. H. Boyd and M. W. Samford, Lee.

County	Members	Counsellors
Barbour	13	2
Bullock	5	0
Coffee	14	1
Dale	7	1
Geneva	11	1
Henry	9	1
Houston	29	2
Lee	20	2
Macon	5	0
Russell	6	0
	119	10

FOURTH DISTRICT

Names of Counsellors—W. M. Salter, Jerre Watson and G. G. Woodruff, Calhoun; J. F. Allison, W. F. Harper and Marcus Skinner, Dallas; J. F. Sewell, Elmore; and French Craddock and C. W. C. Moore, Talladega.

County	Members	Counsellors
Autauga	7	0
Calhoun	40	3
Clay	8	0
Coosa	3	0
Dallas	37	3
Elmore	11	1
St. Clair	10	0
Talladega	26	2
	142	9

FIFTH DISTRICT

Names of Counsellors—W. H. Riser, Chambers; A. C. Gipson, J. O. Finney and J. O. Morgan, Etowah; A. L. Isbell and B. C. Scarborough, Marshall; C. E. Ford, Randolph; and R. A. Foshee, Tallapoosa.

County	Members	Counsellors
Chambers	15	1
Cherokee	3	0
Cleburne	3	0
DeKalb	17	0
Etowah	60	3
Marshall	23	2
Randolph	11	1
Tallapoosa	15	1
	147	8

SIXTH DISTRICT

Names of Counsellors—W. J. B. Owings, Bibb; W. C. Golden, Chilton; T. J. Anderson, Hale; M. H. Eskew and J. V. Howell, Perry; C. T. Acker, Shelby; R. C. Hill, Sumter; and J. P. Collier, R. C. Partlow and C. E. Abbott, Tuscaloosa.

County	Members	Counsellors
Bibb	9	1
Chilton	13	1
Greene	5	0
Hale	7	1

Perry	8	2
Shelby	16	1
Sumter	14	1
Tuscaloosa	51	3
	123	10

SEVENTH DISTRICT

Names of Counsellors—E. T. Brown, Blount; R. B. Dodson, J. G. Daves and M. S. Whiteside, Cullman; B. W. McNease, Fayette; W. A. Gresham, Franklin; M. S. White, Marion; L. C. Davis, Pickens; A. C. Jackson and J. C. Gladney, Walker; and R. Lee Hill, Winston.

County	Members	Counsellors
Blount	12	1
Cullman	22	3
Fayette	11	1
Franklin	15	1
Lamar	10	0
Marion	9	1
Pickens	9	1
Walker	30	2
Winston	9	1
	127	11

EIGHTH DISTRICT

Names of Counsellors—Rayford Hodges, Jackson; H. M. Simpson, Lauderdale; H. A. Darby and J. O. Belue, Limestone; W. G. McCown and C. A. Grote, Madison; and E. M. Chenault, J. C. Bragg and A. M. Roan, Morgan.

County	Members	Counsellors
Colbert	22	0
Jackson	11	1
Lauderdale	30	1
Lawrence	7	0
Limestone	12	2
Madison	37	2
Morgan	30	3
	149	9

NINTH DISTRICT

Names of Counsellors—J. D. Sherrill, J. R. Garber, R. E. Cloud, C. N. Carraway, H. Earle Conwell, J. W. Simpson, F. C. Wilson, G. A. Denison, Hughes Kennedy, Jr., J. A. Meadows, Ralph Morgan, D. C. Donald, Joe M. Donald, E. G. Givhan, Jr., H. W. Allgood, W. A. Clyde, E. Bryce Robinson, W. S. Littlejohn, and S. S. Underwood.

County	Members	Counsellors
Jefferson	495	19

THE ROLL OF CORRESPONDENTS

"Distinguished members of the medical profession residing outside of the State, and Counsellors of the Association, who after not less than ten years of faithful service may have resigned their counsellorships, shall be eligible for election as Correspondents.

"Correspondents shall have the privilege of transmitting or presenting to the Association such communications, or scientific essays, as they may deem proper."—*From the Constitution.*

1854-1855 _____ W. P. Reese

1869-1898	W. C. Jackson
1898-1915	H. G. Perry
1915-1939	J. U. Ray

SECRETARY-TREASURERS OF THE ASSOCIATION

1940-	Douglas L. Cannon
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SCHEDULE OF JEROME COCHRAN LECTURERS

- 1899—J. T. Searcy, Tuscaloosa—What Is Insanity?
 1900—Wm. Osler, Baltimore—Not present.
 1901—Wm. Osler, Baltimore—Not present.
 1902—Nathan Bozeman, New York—Declined.
 1903—George H. Price, Nashville—The History of Medicine.
 1904—W. S. Thayer, Baltimore—Cardiac and Vascular Complications of Typhoid Fever.
 1905—Robert Abbe, New York—The Problems of Surgery.
 1906—Joseph Collins, New York—Arteriosclerosis.
 1907—Nicholas Senn, Chicago—Final Triumph of Scientific Medicine.
 1908—E. L. Marechal, Mobile—Absent.
 1909—Lewellys F. Barker, Baltimore—Clinical Methods of Cardiac Investigation.
 1910—Frank S. Meara, New York—Some Problems of Nutrition in Early Life.
 1911—Rudolph Matas, New Orleans—Inflammatory Tuberculosis.
 1912—Maurice H. Richardson, Boston—Elimination of Preventable Disasters from Surgery.
 1913—L. L. Hill, Montgomery—Surgical Complications and Sequelae of Typhoid Fever.
 1914—Frank Smithies, Chicago—Contributions of the Twentieth Century to the Better Understanding of Gastric Cancer.
 1915—John B. Elliott, Jr., New Orleans—Abscess of Liver.
 1916—Howard A. Kelly, Baltimore—Radium Therapy.
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SUMMARY OF ANNUAL ATTENDANCE

Year	Life Counsellors	Active Counsellors	Delegates	Members	Visitors	Total	Place
1918	27	63	80	257	44	471	Birmingham
1919	22	43	87	94	102	348	Mobile
1920	16	61	59	85	51	272	Anniston
1921	26	65	73	183	58	405	Montgomery
1922	26	72	76	314	68	556	Birmingham
1923	14	48	66	106	50	284	Mobile
1924	29	70	84	230	79	492	Montgomery
1925	27	78	97	328	113	643	Birmingham
1926	33	74	105	194	131	537	Mobile
1927	36	85	104	252	87	564	Montgomery
1928	33	77	108	507	106	831	Birmingham
1929	19	60	102	176	109	466	Mobile
1930	32	83	106	286	102	609	Montgomery
1931	26	80	116	410	158	790	Birmingham
1932	19	60	101	158	133	471	Mobile
1933	21	74	103	264	85	547	Montgomery

Year	Life Counsellors	Active Counsellors	Delegates	Members	Visitors	Total	Place
1934	26	75	97	404	53	655	Birmingham
1935	15	59	91	180	83	428	Mobile
1936	23	79	95	265	68	530	Montgomery
1937	25	80	96	396	81	678	Birmingham
1938	18	65	78	157	63	381	Mobile
1939	29	79	96	326	84	614	Montgomery
1940	29	77	105	401	229	841	Birmingham
1941	29	66	86	211	91	483	Mobile
1942	33	75	105	249	82	544	Montgomery
1943	31	71	83	321	127	633	Birmingham
1944	33	72	92	214	110	521	Montgomery
1945	Meeting Cancelled						
1946	38	81	87	330	127	663	Birmingham
1947	34	76	91	333	124	658	Birmingham
1948	24	64	87	239	127	541	Mobile
1949	31	84	93	288	106	602	Montgomery

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THE JOURNAL OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Volume 18

July 1948-June 1949

EXPLANATORY NOTES

Arrangement of Index

The index is arranged under the following headings:

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- V. The Association Forum
- VI. Department of Health
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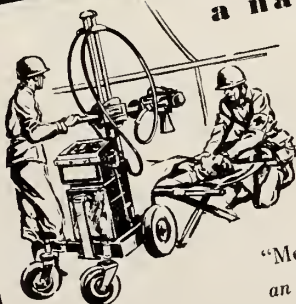
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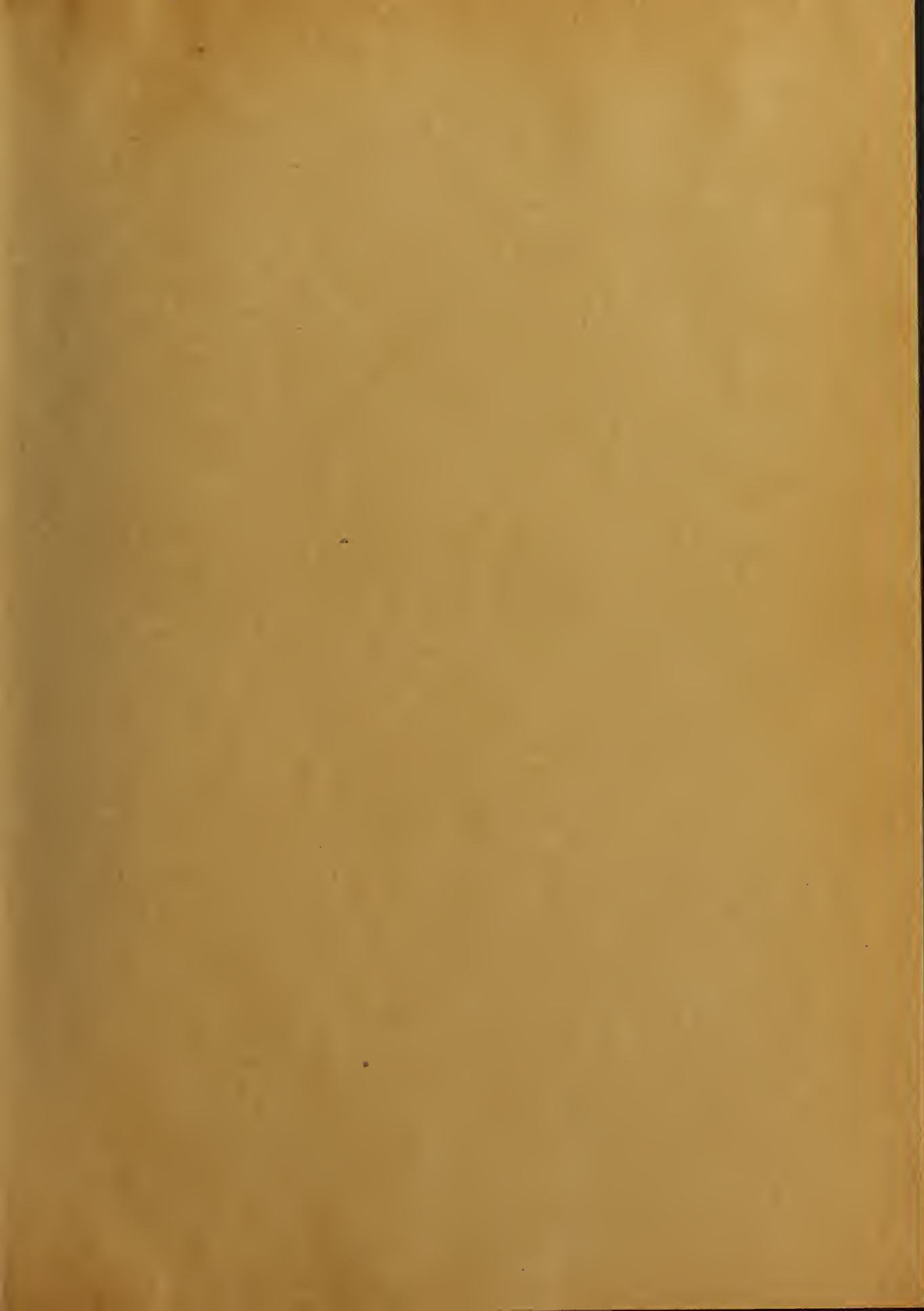
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